



Te Pou o te Whakaaro Nui

The physical health of people with mental health conditions and/or addiction

Evidence update: December 2017

Equally
Well 

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Foreword

It is nearly three years since the Equally Well collaborative was launched at a national summit in November 2014. More than 100 health sector leaders gathered in Wellington to hear presentations about the unacceptable disparities in physical health status among people with mental health conditions and addiction, and discuss how to work together in turning this situation around.

This was not new information. Most people who work in mental health and addiction services are very familiar with the physical health impact on service users of changes in life circumstances, medication, and the mental health conditions and addiction problems themselves. Good work has been done over the years in addressing some of these issues. But for many of us, it wasn't until we started pulling together the vast literature on this topic, going back many decades, that we realised the full extent of the wicked issue that we needed to address urgently.

The initial literature review and evidence summary published by Te Pou o te Whakaaro Nui in 2014 defined the problems and pointed us in the right direction of productive change. The review informed a consensus statement that has now been signed by more than 100 organisations throughout New Zealand, and internationally, and has been used to inform developments and advocate for improvements around the country.

Equally Well has entered the vernacular, and earlier this year an Australian branch was launched. It was fitting that Equally Well won an innovation award at the 2016 TheMHS conference, since it was at the 2013 TheMHS conference that the idea was brought to life by non-government organisation (NGO) leaders, determined to impact on this longstanding disparity. Later in 2016, the strength of the collaborative was recognised by the World Congress on Integrated Care, when it received an award for best paper and presentation at their fourth annual meeting held in Wellington. The judges were impressed by the diversity of people and organisations involved, and the evidence-informed approach being taken.

Recognising the importance of continuing to support the actions of the collaborative, this evidence update has more of a focus on what to do about the inequities than its predecessor. The Equally Well collaborative has been active and good progress has been made. The issues are now visible in district health board (DHB) planning documents. Building on this, the Health Quality and Safety Commission will be funded to focus on activities as a priority for quality improvement across the health sector. DHBs and primary health organisations (PHOs) around the country are funding better access to primary care for mental health and addiction service users. The professional colleges for psychiatry, general practice and mental health nursing have updated clinical and practical guidance and advice to their members. There are numerous examples of good practice within primary care and the NGO sector, building on many years' experience of supporting people with mental health conditions and addiction to improve their physical health.

Te Pou o te Whakaaro Nui is proud to be part of this collaborative effort, through providing backbone support, as well as incorporating Equally Well activities into our own work programme. It has been good to see how many individuals and organisations have picked up the challenges put forward at the 2014 summit. We trust that this new report will provide further impetus for action, and continue to inspire people to work together.

Robyn Shearer

Chief Executive, Te Pou o te Whakaaro Nui

Executive summary

Introduction

This report follows on from an earlier literature review *The physical health of people with a serious mental illness and/or addiction: An evidence review* (Te Pou o te Whakaaro Nui, 2014). The 2014 review summarised well-established research evidence spanning many decades, in relation to the mortality and morbidity of people with mental health conditions and addiction¹, the factors contributing to these health disparities, and the evidence for promising approaches to address these issues.

In summary, the 2014 review found that:

- people living with serious mental health problems are at a greater risk of many chronic health conditions and have a much shorter life expectancy than their general population counterparts
- the disparities are due to greater exposure to known risk factors including low socio-economic status, high rates of smoking, alcohol and other drug use, reduced physical activity and poor nutrition, the side effects of psychotropic medication, and reduced access to physical healthcare
- a comprehensive approach involving collaboration across the health and social sectors, and including interventions at policy, healthcare service and individual behaviour change levels, is needed to address these inequities.

Methods

This narrative review seeks to answer what research has been published since 2013 which can inform the New Zealand Equally Well collaborative, as it seeks to improve the physical health of people with mental health conditions and addiction. It has three secondary questions.

1. How does recent evidence advance our understanding of higher rates of premature mortality and its causes?
2. What does a more in-depth investigation of the literature on psychotropic medications tell us about their impact on physical health?
3. What does recent evidence tell us about priorities for intervention at systems, health services, and individual levels?

¹ This report uses the term 'people with mental health conditions and addiction', to refer to people who have been severely impacted by mental health problems and/or addiction, including those who have been diagnosed with schizophrenia, major depressive disorder, bipolar disorder, schizoaffective disorder and/or addiction. When discussing the findings of particular studies, the terminology of the author(s) is used. This includes mental health and addiction service users.

A narrative approach was taken to bring together information about this particular subject from many sources, enable recommendations and conclusions to be drawn from very different perspectives, and to inform change at different levels across the health and health related systems.

The main focus was on systematic reviews, meta-analyses and large population studies conducted since January 2013. Single studies, particularly those published in New Zealand, were included where they helped to answer the research questions as well as qualitative studies of the experience of mental health service users. Studies of the impact of psychotropic medication on physical health and mortality and how to minimise this impact have been included in this update.

Articles and reviews were identified through searches using Google Scholar, EBSCO and Medline database searches, and the Equally Well collaborative's networks. Search terms used covered both mental health and addiction, health services and systems level changes, and individual level interventions. Articles were also hand-searched from references in review studies.

Clinical guidelines and other relevant international grey literature such as discussion papers and planning documents were reviewed and included where relevant to the questions. There are also many examples of good practice that have been developed in New Zealand in recent years that are showing promising results. Some examples are summarised in *Appendix A*.

Findings

How does recent evidence advance our understanding of the higher rates of premature mortality and its causes?

Recent systematic reviews investigating mortality and morbidity among people with mental health conditions and addiction add to a substantial evidence base indicating that very poor physical health outcomes in this group are a major contributing factor to premature mortality, relative to the general population. No evidence was found of a reduction in these health inequities. There is new evidence that the gap is widening (Hayes, Marston, Walters, King & Osborn, 2017) and that this is due to cardiovascular disease (CVD) mortality (Baxter et al., 2016).

Qualitative studies from New Zealand and Australia indicate that the experience of both service users and clinicians in primary care is often unsatisfactory (Ewart, Bocking, Happell, Platania-Phung & Stanton, 2016; Stokes, Tumilty, Doolan-Noble & Gault, 2017). Reasons for this include practical and financial problems with access, time pressure limitations in general practice, communication difficulties between services, and inadequate clinical guidelines and information for clinicians about supporting people with multimorbidity.

Qualitative studies also describe the experience of mental health service users in accessing physical healthcare (Coventry, Small, Panagioti, Adeyemi & Bee, 2015; Ewart et al., 2016; Young, Praskova, Hayward & Patterson, 2017). They suggest that:

- service users are concerned about physical health problems and many go to extraordinary lengths, especially in terms of preparation, to be taken seriously
- significant changes are needed in how physical healthcare providers relate to mental health service users
- interventions that promote agency and self-determination are more likely to be effective
- income, social engagement and employment are the most important challenges identified by people with experience of psychotic illnesses.

Australian and New Zealand population studies (Cunningham, Sarfati, Stanley, Peterson & Collings, 2015; Kisely, Baghaie, Lalloo, Siskind & Johnson, 2015) comparing cancer mortality among mental health and addiction service users with the general population also found significantly higher cancer mortality within this group, even though both groups have similar rates of cancer. The higher mortality was found in part to be due to reduced access to screening, and delayed identification and cancer treatment for mental health and addiction service users.

Tobacco smoking is up to three times higher among mental health and addiction service users, compared with the general population (Te Pou o te Whakaaro Nui, 2014). Smoking is particularly prevalent among people in treatment or recovery from substance use disorders, with recent studies indicating that between 74 per cent and 98 per cent smoke (Thurgood, McNeill, Clark-Carter & Brose, 2016).

Injecting drug use significantly increases the risk of infection with HIV and hepatitis, especially hepatitis C. The international literature suggests that compared with the general population, people who inject drugs have a much higher risk of death, and the most common causes of mortality in this population are drug overdose and AIDS-related death (Gowing et al., 2015). Needle exchange programmes can protect people who inject drugs from HIV and hepatitis and have been in place in New Zealand since the early 1980s.

What does a more in-depth investigation of the literature on psychotropic medications tell us about their impact on physical health?

The evidence on the impact of psychotropic medication is conflicting. While the physical health impacts of medication can be serious and even life-threatening (Weinmann, Read & Aderhold, 2009; Baxter et al., 2016), so are the impacts of serious mental health conditions and addiction (Hor & Taylor, 2016). Clozapine, antidepressants and mood stabilisers are associated with reduced suicide risk (Malhi et al., 2015; Galletly et al., 2016), which partially explains why studies using national data suggest that all-cause mortality is higher among people with schizophrenia who are *not* receiving antipsychotics (Correll, Detraux, De Lepeleire & De Hert, 2015).

Antipsychotics, and to a lesser degree antidepressants and mood stabilizers, are associated with an increased risk of obesity, diabetes mellitus, CVD, sexual and reproductive health and other physical health problems. Higher dosages of antipsychotics, polypharmacy, and treatment of vulnerable (eg young or elderly) individuals are associated with a greater risk of harm to physical health (Correll et al., 2015). Psychotropic medication is also associated with relatively poor oral health (Kisely et al., 2015).

Methadone, most commonly used in the treatment of opioid addiction, has been associated with significant weight gain, chronic constipation and a range of other health impacts (Fenn, Laurent & Sigmon, 2015).

The increased risk of physical health problems among people taking psychiatric medications raises questions about the practice of gaining informed consent, and the extent to which it is possible for service users to have a say in their medication choices. Research indicates that service users are often not well-informed about the possible side-effects of their medication and many people, including those without mental health conditions and addiction, do not take medication as prescribed. Attempts to withdraw without clinical support are also common (Gibson, Brand, Burt, Boden & Benson, 2013). New Zealand findings support those of international studies and suggest that treatment systems need to provide better information and support to people on medication, and particularly those who wish to discontinue use so they can attempt this safely (Larsen-Barr, 2016).

What does recent evidence tell us about priorities for interventions at systems, health services, and individual levels?

Systems level interventions: International policy direction

The *Mental Health Action Plan 2013-2020* published by the World Health Organization (WHO) states that determinants of mental health and mental disorders include both individual attributes and “social, cultural, economic, political and environmental factors such as national policies, social protection, living standards, working conditions, and community social supports” (WHO, 2013, p.7). A comprehensive framework to reducing excess mortality in people with severe mental disorders includes the need to address these socioeconomic determinants and was developed in collaboration with the WHO by Liu and colleagues (2017).

This framework incorporates individual, health system, community, and policy-level actions to help people design, implement and evaluate interventions and programmes (see p.13 of this report). It is similar to the New Zealand Equally Well collaborative framework (see *Appendix A*). The authors emphasise that people with mental health conditions have a right to an equal standard of physical healthcare, and highlight the need to allocate resources for the routine data collection of key indicators of excess mortality at local, regional and national levels (Liu et al., 2017).

Several recent international policy and planning documents (see *Appendix B*), demonstrate similar approaches to improve the physical health of people with mental health conditions and addiction. These are supported by updated clinical guidelines (NICE, 2014; Malhi et al., 2015; Galletly et al., 2016) which reflect a shift towards recovery in mental health and addiction services, and recognise the importance of closer collaboration with primary care.

Drinking alcohol can have negative implications for physical health even at low levels (Stockwell et al., 2016) and there is a large evidence base about the many associated health problems (WHO, 2014; Holst, Tolstrup, Sørensen & Becker, 2017). There is very good evidence supporting a strong legislative and regulatory framework to minimise problem drinking in young people and adults at a population level, documented by the WHO over recent decades (Muhunthan, Angell, Wilson, Reeve & Jan, 2017).

Smoke-free hospital policies alone were found to be effective in reducing smoking prevalence in people admitted to psychiatric wards in one systematic review (Stockings et al., 2014). This review found a significant decline in cigarette consumption following discharge from hospital.

Encouraging access to employment for under-represented groups was identified by the Organization for Economic Cooperation and Development (OECD) as one of several policy levers to reduce the impact of income inequalities on mental health. The OECD (2015) recommends a stronger employment focus in the mental health system as follows:

- add employment-related outcomes to the quality assurance and outcomes frameworks of the health system
- incorporate employment support into the treatment plan for people with mental health problems
- develop employment support programmes for people with mental health problems.

Health services level interventions

Health screening and monitoring

Review studies indicate the need for a much greater alignment between clinical guidance and practice, particularly in relation to metabolic monitoring, screening for blood-borne viruses, CVD, cancer, and in the prescribing of psychotropic medication. Adherence to clinical guidelines for risk identification, management, and treatment for CVD is recommended for people on antipsychotic medication in a recent meta-review (Baxter et al., 2016).

For mental health and addiction service users, especially those on antipsychotic medication, routine screening and monitoring for health problems is essential. However, systematic reviews confirm inequities in terms of early diagnosis, use of monitoring and provision of treatment for physical health problems. “Despite their increased exposure to chronic disease risk factors, many people with severe mental illness have limited access to general healthcare with less opportunity for metabolic risk factor screening and prevention...” (Baxter et al., 2016, p.326).

New Zealand DHBs develop their own disease-specific clinical pathways, however a study of metabolic screening policies found that only three quarters of DHBs had some form of policy, with wide variation in terms of format and quality (Stavely, Soosay & O'Brien, 2017). This finding supports the need for more nationally consistent quality improvement processes, particularly around health screening and monitoring.

Improving access to primary care

There is recent evidence from a systematic review investigating integrated mental and physical health interventions for adults with mental health conditions (Whiteman, Naslund, DiNapoli, Bruce & Bartels, 2016) that identifies the value peer support workers bring when they are brought into primary care settings. Peer workers were found to improve access to primary care and improve physical functioning, emotional wellbeing, general health functioning, self-management efficacy and patient engagement.

This adds to promising research that peer staff can be effective in engaging people into care, reducing the use of emergency rooms and hospitals, reducing substance use among persons with co-occurring substance use disorders (Davidson, Bellamy, Guy & Miller, 2012) and delivering self-management components to address physical healthcare for individuals experiencing severe mental health problems (Kelly, Fenwick, Barr, Cohen & Brekke, 2014).

There is good evidence that brief interventions delivered by health professionals in primary care settings can be beneficial in reducing alcohol-related harm. The impacts of brief interventions tend to be modest but are potentially worthwhile as they are easy to deliver and low-cost. The effects have been shown to be maintained at least one year following the intervention (Tanner-Smith & Lipsey, 2015). There is promising evidence for the value smartphone applications can offer in treatment for alcohol use disorder and reducing alcohol consumption (Meredith, Alessi & Petry, 2015).

Based on strong evidence for the effectiveness of integrated employment support services with health services (Kinoshita et al., 2013) the OECD (2015) suggested that GPs be offered financial incentives for talking to patients' employers, and that governments should give GPs incentives for building employment support into their practices. Employment support for people with mental health conditions is available in some primary care settings in New Zealand with promising evaluation results (Te Pou o te Whakaaro Nui, 2013).

Poor oral health can predispose people to a range of chronic physical diseases, including diabetes and CVD. The cost of dental health services is a key barrier to access in most parts of New Zealand. Possible interventions, combined with addressing the cost barrier, include oral health assessment using standard checklists, help with oral hygiene, management of iatrogenic dry mouth, and early dental referral (Kisely et al., 2015).

Reducing stigma and discrimination

Stigma has been found to be the fourth-highest ranked barrier to help-seeking for physical healthcare among people with mental health conditions and addiction. Disclosure concerns are the most commonly reported stigma barrier (Clement et al., 2015).

Because it is thought to increase the risk of delaying treatment for physical health problems, diagnostic overshadowing (or the misattribution of physical health symptoms to mental health problems) among health professionals has been identified as a form of discrimination contributing to health disparities between people with and without experience of mental health problems (Noblett, Lawrence & Smith, 2015). Studies have found that social contact interventions, where people with experience of mental health conditions meet on equal terms, people who don't have mental health conditions can be effective in improving stigma-related knowledge and attitudes in the short term (Mehta et al., 2015; Thornicroft et al., 2016). Organisational support, including training, supervision and the ability to consult an expert, is also important in reducing stigma (van Boekel, Brouwers, Van Weeghel & Garretsen, 2013).

Peer support in mental health and addiction services

There is evidence to suggest that peer support is likely to have a positive impact on people's recovery, particularly group peer support programmes. Peer support also appears to offer promise for supporting better engagement with services, so people have a wide range of treatment options. In addition, evidence is emerging of the cost effectiveness of peer support programmes when compared with standard programmes (Fuhr et al., 2014; Te Pou o te Whakaaro Nui, 2017). A review of studies of peer support groups in addiction treatment found they had a positive impact on substance use, engagement, risk behaviours and substance related outcomes (Tracy & Wallace, 2016).

Comprehensive wellness programmes in mental health and addiction services

As was identified in the 2004 review, there is good evidence for making comprehensive wellness programmes an integral part of mental health and addiction services. All interventions focused on preventing weight gain on the prescription of psychotropic medication through to individual behaviour change interventions, should be informed by the evidence outlined in this review.

For example, key components of physical activity interventions in mental health settings were identified by Lederman and colleagues (2017) as outlined below.

- **Early intervention:** Intervention at the earliest stages of psychosis is imperative in preventing rapid weight gain typically seen at commencement of antipsychotic medication.
- **Routine metabolic monitoring:** Monitoring of cardiometabolic indicators (eg body mass index, blood pressure, waist circumference and metabolic blood profile).
- **Multidisciplinary approach:** All key stakeholders should be involved in physical activity promotion, including mental health team members, family and carers. Recovery-orientated consumer-centred practices can be supported by routine evaluation and consumer feedback.

- **Behaviour-change strategies:** Apply principles of motivational interviewing and behaviour-change counselling.
- **Individualisation:** Individualised physical activity counselling and supervised, tailored exercise programmes are associated with better adherence and lower drop-out.
- **Supervision:** Exercise professionals and physiotherapists are ideally positioned to provide safe, evidence-based exercise interventions.

Individual level interventions

Self-management interventions which have shown success for both mental and physical health outcomes as reported by Whiteman et al. (2016) are outlined below.

- Automated telehealth services for remote and home-based clients supported by a nurse at a mental health centre.
- Peer-led group education and support sessions in community and primary care settings.
- Individualised weekly sessions in goal development, recovery strategies, psychoeducation, healthy lifestyles, medication and health management and relapse prevention planning.
- Group sessions for people with mental health and chronic health problems in mental health outpatient settings involving peers and other social services.
- Psychosocial rehabilitation and diabetes self-management services, education and nutrition programmes, psychiatric support, intensive case management and residential support.
- Targeted training in illness management – psychiatric and diabetes self-management intervention based in primary care. Groups were co-led by a nurse educator and a peer educator with experience of mental health conditions, addiction and diabetes.

This review found good evidence for the effectiveness of interventions that aim to prevent or mitigate weight gain when prescribed psychotropic medications, including both behavioural approaches and metformin² for supporting weight control.

High-quality clinical trials suggest elements important to the success of self-management interventions include effective tailoring for people with mental health conditions and addiction, use of social support strategies and incorporation of both behavioural self-management skills training and environmental supports (such as smartphone apps). Interventions with higher frequency of contacts and longer duration had the most beneficial effects (McGinty, Baller, Azrin, Juliano-Bult & Daumit, 2016).

Given the proven acceptability of smartphone apps among mental health service users, trials show the potential value of this technology as additional support for improving the physical health of people with mental health conditions and addiction (Stephens & Allen, 2013).

² Metformin is an oral diabetes medicine that helps control blood sugar levels.

Smoking cessation

For interventions that include smoking cessation, Liu and colleagues (2017) recommend provider training and materials specific to people with mental health conditions. They found good evidence that combination treatment including counselling and bupropion, with or without nicotine replacement therapy, are effective with this population. The effectiveness of multifaceted text-message support in smoking cessation has been clearly demonstrated. Biochemically verified cessation more than doubled in well-designed trials (Free et al., 2013).

Nutrition

Recent reviews of good quality studies of nutrition interventions in adults with a diagnosis of a severe mental illness have found significantly improved weight, body mass index (BMI), waist circumference and glucose levels (Teasdale, Ward, Rosenbaum, Samaras & Stubbs, 2016). Nutrition interventions delivered by dietitians aiming to prevent weight gain at antipsychotic initiation, had the greatest effect. This supports their early inclusion in mental health service delivery.

Gates, Killackey, Philips and Alvarez-Jimenez (2015) concluded that preventing weight gain when the person starts antipsychotic drugs is likely to be more effective than attempting to reduce weight in chronic forms of psychosis. In the study of a 12-week individualised programme, Curtis and colleagues (2015) found that the intervention group experienced more positive outcomes with significantly less weight gain compared to standard care. The individualised programme incorporated (1) health coaching with motivational interviewing, (2) dietetic support, (3) exercise, (4) peer wellness coach, (5) antipsychotic medication switching after 5kg weight gain.

The impact of substance use on the appetite and absorption of nutrients is well known (Ross, Wilson, Banks, Rezannah & Daglish, 2012) but interventions to address this have been rare, apart from those providing thiamine in acute alcohol withdrawal to reduce the risk of Wernicke Korsakoff syndrome. However, evidence is emerging of the potential benefits for nutritional supplements (eg with zinc or S-adenosyl methionine, a chemical found naturally in the body), to prevent or reduce some types of alcohol-induced organ damage associated with ongoing alcohol use (Barve, Chen, Kirpich, Watson & McClain, 2017).

Physical activity

As noted in the 2014 Te Pou o te Whakaaro Nui review, physical activity interventions alone are less effective in improving health and wellbeing in people with mental health conditions than comprehensive wellbeing programmes supported by peers and professional staff. Exercise interventions were found to have no significant effect on BMI in one systematic review, but could improve physical fitness and other cardiometabolic risk factors (Firth, Cotter, Elliott, French & Yung, 2015). The study also concluded that psychiatric symptoms were significantly reduced by interventions that included around 90 minutes of moderate-to-vigorous exercise per week. In another systematic review of seven studies examining exercise interventions for people with schizophrenia, the interventions were found to improve cardiorespiratory fitness compared to control groups (Vancampfort, Rosenbaum, Ward & Stubbs, 2015). The exercise interventions ranged

from six weeks to six months and included a mix of treadmill walking/running, ergometer cycling and resistance training/muscle exercises.

Recommended priorities for action

Systems level changes

The following have been identified as priority areas for action and will involve changes at a systems level ie within policy and/or health service delivery systems:

- improve access to social and economic determinants of health, eg employment and housing
- provide employment support for people with mental health conditions and addiction in secondary and primary care settings
- ensure mental health parity with physical health
- deliver comprehensive wellness programmes for people in recovery from mental health conditions and addiction, involving peer and/or professional support
- greater access to nutrition interventions, delivered by dietitians
- use of motivational interviewing/behaviour change counselling
- eMental health support, eg phone apps and online self management programmes designed to support engagement and activation
- reduce exposure to tobacco smoke through smokefree policies and provider training, routinely offered smoking cessation support and delivery of counselling with or without nicotine replacement therapy
- improve access to dental health services for mental health and addiction service users eg through packages of care subsidies
- include psychotropic medication as a risk factor for cardiovascular disease and Type 2 diabetes in practice guidelines and decision-making aids in general medicine
- inform mental health and addiction service users of physical health side-effects of particular medications, and advice on how to mitigate these, including consideration of alternative medication and supported withdrawal.

Quality improvement

The findings of this report support a focus on quality improvement throughout the healthcare delivery system. The following have been identified as initial priorities for quality improvement in healthcare delivery:

- resourcing of service user (peer) leadership and participation in the planning and delivery of physical health initiatives across primary care and mental health and addiction services
- improved metabolic screening and monitoring within mental health and addiction services

- improved communications between mental health and addiction services and primary care
- improved mental health and addiction service user access to primary care
- adherence to clinical guidelines for psychotropic prescribing (particularly in relation to recovery-focused practice and the minimisation of polypharmacy) and the management of physical wellbeing among people with mental health conditions and addiction
- improved risk assessment and management of cardiovascular disease, cancer screening and access to treatment, for people who are in contact with mental health and addiction services
- workforce planning and development to support increased capacity and competency in the delivery of interventions to improve the physical health among people with mental health conditions and addiction.

Proposed research agenda

The findings of this review support the WHO's conclusion that "despite known risk factors for premature mortality, evidence for effective interventions is limited" (Liu et al., 2017, p.38). There is a need for a strategic, multi-disciplinary and coordinated programme of research in this area as detailed below.

Study design

- **Longer term outcome measurement for intervention studies.** Review studies often comment on the overall weakness of evidence for interventions aiming to address medical conditions in people with mental health conditions and addiction (Liu et al., 2017), particularly a lack of longer-term outcome measurement (Baxter et al., 2016).
- **Long-term outcome measurement for anti-discrimination interventions.** There is evidence that health professionals who have more contact or experience with a condition which attracts stigma are more tolerant and have more positive attitudes. However, evidence for the longer-term benefit of social contact to reduce stigma is inconclusive (Mehta et al., 2015; Thornicroft et al., 2016), suggesting the need for long-term follow up studies.
- **Monitoring and analysis of data about psychotropic medication use among children and young people.** It is likely that increasingly widespread use of psychotropic medication, including among children and young people in many countries, is also happening in New Zealand. This raises concerns about possible adverse mental and physical health effects associated with some psychotropic drugs for these populations.
- **Randomised controlled trials of interventions to prevent and reduce constipation and related complications in people prescribed clozapine.** Current evidence on the use of laxatives is deserving of further investigation (Every-Palmer et al., 2017b).

Research in healthcare delivery

- Understanding the barriers to the provision of physical health monitoring and the key aspects of effective programmes which have been evidenced to improve physical health (Baxter et al., 2016).
- Peer support programmes should be implemented within the context of high-quality research projects wherever possible (Lloyd-Evans et al., 2014). The evidence on peer support in primary, community and secondary care is promising. However, the quality of research in this area is not high.
- Studies which compare the costs of peer and professional led self-management programmes. Both peers and professionals have been found to be effective in improving self-management among people with mental health conditions and addiction, but few studies have analysed and compared **costs** between the two approaches (Kelly et al., 2014).
- Research on the underlying mechanisms for the increased cardiovascular disease risk after pharmacotherapy initiation is urgently needed (Correll et al., 2017) to develop more effective and targeted preventive and interventional treatments.
- The effectiveness of self-management in improving *physical health* outcomes among people with mental health conditions and addiction. Self-management interventions have been demonstrated in randomised controlled trials to be successful in improving *mental health* outcomes.
- New Zealand-based participative mental health consumer research for improving physical healthcare. Qualitative evidence appears to be primarily of relevance to the country of origin (Happell, Ewart, Platania-Phung & Stanton, 2016). Similar studies could be conducted to improve understanding of barriers to physical healthcare in New Zealand.
- Effective alternatives to medication for those people wanting to explore supported withdrawal from medications. This is particularly important since it appears that high numbers of people are attempting unsupported withdrawal from medication (Gibson et al., 2013; Salomon & Hamilton, 2013; Larson-Barr 2016).

Workforce development

Research is needed in support of effective workforce development planning to meet the physical health needs of people with mental health conditions and addiction who are living in the community. Although there is good baseline data on the approximately 3,000 mental health and addiction support workers in DHBs and NGOs (Te Pou o te Whakaaro Nui, 2015), little is known about the competencies, capacity and training needs of this workforce, and those working in primary care, in relation to their roles in improving physical health.

Conclusions

This report brings together findings from a wide range of research investigating the physical health of people with experience of mental health conditions and addiction. It also summarises some qualitative research on the experience of mental health service users. These new qualitative studies vividly illustrate the personal cost of this disparity. The resulting picture is complex and multidimensional and reinforces many of the findings and the 14 recommendations from the 2014 Te Pou o te Whakaaro Nui review (see p.22). In particular, people with experience of mental health conditions and addiction need to be visible as a priority group in national and regional policies impacting on health outcomes, and key indicators of excess mortality for this population need to be routinely monitored.

This review sought to understand how recent evidence could advance our understanding of premature mortality in people with mental health conditions and addiction, causes and ways to reduce this excess mortality. There is a very large research base going back decades, which examines and defines the extent of the problem. Research published since 2013 complements well-established information about the relatively poor physical health outcomes of people with experience of mental health conditions and addiction. There is some evidence that the inequities are widening, in part due to increasing life expectancy of general populations in many countries. Research summarised in this review indicates that the widening inequities may also be due to structural socioeconomic factors. This includes increasing income inequalities in many countries which are associated with a range of social and economic challenges – loss of employment, poor quality accommodation and homelessness – all of which have been exacerbated in many countries following austerity measures after the 2008 global financial crisis. Other contributing factors are the relatively high rates of tobacco smoking, an international trend of increased prescribing of psychotropic medications, and difficulties in co-ordinating between primary care and secondary mental health services.

This review also sought to understand what recent evidence tells us about the priorities for intervention at systems, health services, and individual levels. As is often the case, the solutions are less well-researched than the problems. Recent review studies summarised in this report identify possible interventions across health, social and economic policy, healthcare service delivery, and at individual behaviour change levels. The evidence base is growing in strength, and certainly provides a good steer on where limited resources may be targeted to impact most effectively on the health disparities.

Follow-up studies overseas indicate that the gap is widening, this highlights the continuing importance of the Equally Well collaborative and the need for us nationally, to be routinely monitoring key indicators of morbidity and mortality for people who experience mental health conditions and/or addiction; so we remain vigilant and continue to understand the extent of and can address the health inequity in New Zealand.

Introduction

This report follows on from a narrative literature review by Te Pou o te Whakaaro Nui (2014), to investigate the physical health of people with experience of mental health conditions and addiction.

The 2014 evidence review informed the beginnings of Equally Well, a collaborative approach to addressing inequities in health outcomes between people with lived experience and their general population counterparts.

It was used in the development of a consensus statement which has now been signed up to by more than 100 organisations – NGO mental health and addiction health providers, health professional peak bodies, DHBs, PHOs and national health agencies.

While the main purpose of this report is to update the ‘what works’ section of the original evidence review, it also includes important new evidence, some of which was outside the original scope. For example, there is a more thorough investigation of the impacts of psychotropic medication on physical health, which contributes to a better understanding of the problems we are attempting to address.

Summary of findings from the 2014 review

The 2014 review summarised research evidence in relation to the physical health of people with serious mental health conditions and addiction, focusing on three main areas: health status, drivers of relatively poor physical health and promising interventions. The current report looks primarily at new evidence in support of promising interventions, at both systems (policy and healthcare delivery) and individual behaviour change levels.

In summary, the 2014 review found that:

- people living with serious mental health problems are at a greater risk of many chronic health conditions and have a much shorter life expectancy than their general population counterparts
- the disparities are due to greater exposure to known risk factors including low socio-economic status, high rates of smoking, alcohol and other drug use, reduced physical activity and poor nutrition, the side effects of psychotropic medication, and reduced access to physical healthcare
- a comprehensive approach involving collaboration across the health and social sectors, and including interventions at policy, healthcare service and individual behaviour change levels, is needed to address these inequities.

The 2014 review identified 14 policy, practice and research priorities that are detailed below. Although good progress has been made in some of these areas, the new evidence summarised in the current report suggests that they need to remain priorities.

Policy

- Make people with experience of mental health conditions and addiction visible as a priority group in national and regional policies impacting on health outcomes. This includes policy in sectors outside health, such as housing and employment. Prioritise funding to implement these policies, for example through DHB annual planning processes.
- Ensure that effective monitoring and screening procedures for physical health are part of the quality frameworks for mental health and addiction services.
- Develop guidelines on the roles and responsibilities of health professionals in monitoring, screening and on-going management of the physical health of this group, particularly the complementary roles of primary and secondary services.
- Address the stigma and discrimination experienced by people in accessing healthcare. Include health professionals as a key audience in anti-discrimination campaigns.

Practice

- Strengthen linkages between primary care and mental health services. Build the confidence and capability of the workforce across both sectors to better manage physical health problems among this group.
- Provide routine monitoring of the physical health of mental health service users and screening for physical health problems, especially those associated with the use of psychotropic medication.
- Invest in early intervention in psychosis services that provide evidence-based weight management support, especially for people first prescribed psychotropic medication.
- Provide comprehensive, personalised wellness programmes which include appropriate behavioural therapy alongside physical activity and healthy nutrition.
- Ensure compliance with smokefree policies and routinely offer effective smoking cessation support to people with mental health conditions and addiction who smoke.
- Improve access to dental health services for mental health and addiction service users.
- Reduce the impact of lowered socio-economic status through supporting access to employment and suitable housing.

Research and evaluation

- Trial alternative and complementary treatment options to minimise the side effects of antipsychotic medication. Options include psychological therapies and comprehensive wellness programmes with structured physical activity, using evaluation and quality improvement methods to develop best practice.
- Monitor and report on the morbidity and premature mortality rates to provide better information on trends. Enable the measurement of improvements in the health of this population.
- Undertake qualitative research to better understand effective interventions from the perspectives of people with experience of mental health conditions and addiction.

The current report looks primarily at new evidence in support of promising interventions, at both systems (policy and healthcare delivery) and individual behaviour change levels. It also looks at some areas which were not covered in detail by the 2014 review, in particular the physical health impacts of psychotropic medications and qualitative research on the experiences of mental health and addiction service users. In providing new evidence, the aim is to support ongoing development of Equally Well and its collaborative approach to address inequities in health outcomes between people with lived experience of mental health problems, and their general population counterparts.

Methods

This review of published and unpublished research literature is mainly limited to studies published in the English language from 2013-2017. It builds on the findings of a previous review *The physical health of people with a serious mental illness and/or addiction: An evidence review* (Te Pou o te Whakaaro Nui, 2014) which summarised research evidence in three main areas: health status, drivers of relatively poor physical health and promising interventions. The current report has a primary focus on new evidence in support of promising interventions at both systems (policy and healthcare delivery) and individual behaviour change levels. It uses similar methods and structure for presenting information as the previous report.

It seeks to answer what research has been published since 2013 which can inform the New Zealand Equally Well collaborative, as it seeks to improve the physical health of people with mental health conditions and addiction. It has three secondary questions.

- i) How does recent evidence advance our understanding of the problem and its causes?
- ii) What does a more in-depth investigation of the literature on psychotropic medications tell us about their impact on physical health?
- iii) What does recent evidence tell us about priorities for intervention at systems, health services, and individual levels?

A narrative approach was taken to bring together information about this particular subject from many sources, enable recommendations and conclusions to be drawn from very different perspectives, and to inform change at different levels across the health and health related systems.

The main focus was on systematic reviews, meta-analyses and large population studies conducted since January 2013. Single studies, particularly those published in New Zealand, were included where they helped to answer the research questions as well as qualitative studies of the experience of mental health service users. Studies of the impact of psychotropic medication on physical health and mortality and how to minimise this impact, have been included in this update.

Articles and reviews were identified through searches using Google Scholar, EBSCO and Medline database searches, and the Equally Well collaborative's networks. Search terms used covered both mental health and addiction, health services and systems level changes, and individual level interventions. Articles were also hand-searched from references in review studies.

There is a separate body of research that focuses on problematic substance use and addiction. A great deal is known about the impact on physical health of using particular substances, including prescription drugs. This review found very few systematic reviews that investigated interventions to address the physical health outcomes of addiction issues. However, many studies include participants with both addiction and mental health issues. Co-existing addiction and mental health problems are common.

Clinical guidelines and other relevant international grey literature such as discussion papers and planning documents have been discussed where relevant to the question. There are also many examples of good practice that have been developed in New Zealand in recent years that are showing promising results. Some examples are summarised in *Appendix A*.

Use of language

In bringing together material from different sources, there is sometimes a need to accommodate very different world views expressed through language. The use of particular words can unintentionally exclude people with different perspectives and experience. It is not our intention to cause any offence by the use of terminology in this report.

In the research literature, the term ‘people with serious/severe mental illness’ (SMI) is commonly used to describe people with a diagnosis of psychosis, major depression or bipolar disorder. This is to distinguish between these diagnoses and more prevalent mental health problems such as ‘mild to moderate’ depression and/or anxiety. Addiction is sometimes but not always included in the use of the term. Other researchers use the term ‘severe mental disorder’ (SMD). A lot of the studies found in this review focus on a particular condition, such as schizophrenia, and therefore the findings cannot be generalised to other mental health conditions.

Many people are uncomfortable with biomedical or ‘othering’ terminology and preferred terms may be ‘people with experience of a mental health/addiction problem/issue/condition’ or ‘mental health service user/consumer’.

Because this review brings together the findings of many different research methodologies that investigate different issues and groups of people, it is impractical to apply consistent terminology throughout the paper. The language used in this report is generally consistent with that used by the authors of the particular studies discussed, and the term ‘people with mental health conditions and addiction’ is most often used in general discussion.

How does recent evidence advance our understanding of the problem and its causes?

Global disease burden

Recent systematic reviews have added to a large body of research spanning many decades, pointing to the role of physical health problems in mortality and morbidity among people with experience of mental health conditions and addiction. One such review of the global disease burden estimated that 14.3 per cent of deaths worldwide (eight million deaths each year) were attributable to mental disorders, of which more than two-thirds (67.3 per cent) were due to natural causes (Walker, McGee & Druss, 2015). Among the general population, it is estimated that internationally, 11 per cent of deaths in males and six per cent of deaths in females are due to smoking tobacco, and that nearly eight per cent of deaths in males and four per cent of deaths in females were related to alcohol consumption (Gowing et al., 2015).

A systematic review investigating years of potential life lost and life expectancy of 247,603 people with schizophrenia (Hjorthøj, Stürup, McGrath & Nordentoft, 2017) confirmed previous findings of significant reductions in life expectancy in all nine countries analysed (UK, Canada, Ethiopia, Denmark, Sweden, Finland, Australia and Taiwan). Schizophrenia mortality was associated with a weighted average of 14.5 years of potential life lost and this was higher for men than women. The authors found no indication that this shortening of life had lessened over time in any of the countries.

New evidence has emerged that the life expectancy gap between people who experience serious mental health problems and those who do not, has widened in the last 25 years or so. A UK-based cohort study compared the mortality gap between 17,000 people with bipolar disorder, 22,000 with schizophrenia and counterparts in the general population (Hayes et al., 2017). They found that mortality had increased from the mid-2000s in the two groups relative to the general population. During the 15-year follow-up period (2000-2014), and after accounting for sociodemographic characteristics, the authors found the rate of all-cause mortality in people with bipolar disorder was 1.77 times that of the general population. For people with schizophrenia it was 2.08 times greater. Deaths identified as suicide were rare in this cohort, the main cause of death identified was CVD.

The authors suggested that in addition to common CVD risk factors such as tobacco smoking, people with bipolar disorder and schizophrenia were also at increased mortality risk from polypharmacy practices and higher drug dosages. They hypothesised that the increased mortality may also reflect reduced support for people living with bipolar disorder and schizophrenia in the community following the 2008 financial crash. Austerity policies “have had the hardest impact on those with SMI” (Hayes et al., 2017, p.6).

An earlier retrospective analysis of population-based registers of more than 292,000 psychiatric patients in Western Australia found that life expectancy had worsened between 1985 and 2005. This was for both male and female service users and 77.7 per cent of excess deaths were attributed to physical health conditions (Lawrence, Hancock & Kisely, 2013).

While life expectancy in the general population increased from 73.1 years in 1985 to 79.1 years in 2005 for males, and from 79.3 years to 83.8 years for females, all mental disorders were associated with a significant gap in life expectancy throughout the study. The size of the gap was shown to have increased from 13.5 to 15.9 years for males and from 10.4 to 12.0 years for females. Most of this excess mortality was attributed to physical health conditions – cardiovascular disease (particularly among people with schizophrenia and other psychoses), respiratory disease and cancer.

The increased gap was primarily due to increasing life expectancy in the general population. However, “the results of this study are significant in that they show that outcomes for people with mental illness have worsened since the 1990s despite increasing knowledge about the impacts of such illness” (Lawrence et al., 2013, p.4). Furthermore, the gap in life expectancy between people with mental health problems and the general population was worse than that for other disadvantaged groups, including lifelong smokers and Aboriginal and Torres Strait Islanders.

Income inequality

Socioeconomic status and income inequality have been identified as drivers of poor mental health for many years (Te Pou o te Whakaaro Nui, 2014). There is evidence of a social gradient in the prevalence of mental disorders, whereby people who are more socially and economically disadvantaged experience higher rates of serious mental disorders than those who are better off.

The relationship between substance use and addiction and socio-economic status is complex. International evidence suggests that tobacco use and gambling is more prevalent in people who are socially and economically disadvantaged. The types of substances people use and their patterns of use are different depending on income. Problematic alcohol use is more prevalent in people with higher incomes while other substances are more likely to be used by people with lower socio-economic status (Henkel & Zemlin, 2016).

Ecological studies comparing poor health between countries have shown that countries with greater income inequality have higher levels of mental illness than those with a smaller income gap between the wealthiest and poorest (Dahlgren & Whitehead, 2007). A recent systematic review of incidence of schizophrenia between 26 countries including New Zealand (Burns, Tomita & Kapadia, 2014) found a significant positive relationship between the incidence rate of schizophrenia and measures of income distribution, assessed using the Gini coefficient.³ The authors hypothesised that “economic disparity damages social capital and reduces social cohesion, setting up stressful rank

³ The Gini coefficient is a statistical measure used to represent the income distribution of a nation's residents.

comparisons that negatively impact hormonal and neurotransmitter systems especially during early development and creating vulnerability to mental disorders” (Burns et al., 2014, p.190). They found a significant positive relationship between income inequality and the incidence of schizophrenia in comparisons between countries. This supports the hypothesis that income inequality and the chronic stress associated with living in highly disparate societies place individuals at increased risk of schizophrenia.

Stigma and discrimination

There is a large body of research that investigates the impact of stigma among people with mental health conditions and addiction. A recent systematic review of stigma and help-seeking behaviour identified 144 studies that met their inclusion criteria (Clement et al., 2015). Among 90,189 participants, stigma was found to be the fourth-highest ranked barrier to help-seeking, with disclosure concerns the most commonly reported stigma barrier. This is of particular concern in relation to access to physical healthcare services for mental health and addiction service users.

The impact of stigma and discrimination on people with mental health problems has been studied recently in Australia. A population-based survey of 1,381 adults with mental health problems (Morgan, Reavley, Jorm & Beatson, 2016) investigated the scope and nature of both discrimination and positive treatment experiences when using health services. A minority (11.8 per cent) reported negative experiences of discrimination from their health professionals. Most commonly, these included being treated dismissively, being judged and not listened to. However, more than 40 per cent of those surveyed reported being *more* positively treated by their health professional because of their mental health problem.

The attitudes of health professionals towards people with mental health problems have been identified as a factor in inadequate preventative care or treatment for the physical health problems experienced by people with SMI (Lawrence & Kisely, 2010; Cunningham, Sarfati, Peterson, Stanley & Collings, 2014). These attitudes have been studied recently in both the US and Australia.

Corrigan and colleagues (2014) studied the attitudes of 166 health professionals – under half working in primary care and the balance in mental health practice – towards people with schizophrenia in the southern US. Participants completed measures of stigma characteristics, expected adherence and subsequent health decisions about a male patient with schizophrenia who was seeking help for low back pain due to arthritis. The study found that participants who endorsed stigmatising characteristics of the patient were more likely to believe he would not adhere to treatment and so were less likely to refer him to a specialist or refill his prescription. There was no difference in terms of expectations about treatment response between those working in primary care and those in mental health services.

A study of Australian health professionals and the general community (via postal and telephone surveys respectively) compared stigmatising attitudes towards people with mental disorders between GPs (n=518), psychiatrists (n=506) clinical psychologists (n=498) and 6,019 members of the

general community (Reavley, Mackinnon, Morgan & Jorm, 2014). Stigmatising attitudes were generally lower among health professionals. However, GPs were found to hold more stigmatising views than psychiatrists and psychologists, and stigma was higher for schizophrenia than depression or anxiety disorders (Reavley et al., 2014).

Cancer mortality

Research exploring the reasons for worse cancer survival among mental health and addiction service users in New Zealand (Cunningham et al., 2015) indicates that delayed cancer diagnosis is a major problem for our health services. The study linked information from a large national mental health dataset, Programme for the Integration of Mental Health Data (PRIMHD), with a national cancer registry. It explains, with confidence, differences in survival between mental health service users and the general population.

Consistent with international studies discussed in the previous review, Cunningham et al., (2015) found that people diagnosed with schizophrenia, schizoaffective disorder and bipolar disorder prior to cancer diagnosis had two to three times the risk of dying of their cancer within five years (after adjusting for confounding factors). One-third of the survival difference could be explained by late stage diagnosis for this group.

For both the cancers studied (breast cancer and colorectal cancer) people with a history of mental health problems were more likely to be Māori, live in deprived areas and have a higher level of comorbidity with physical health problems. Comorbidity accounted for up to 50 per cent of the difference in mortality between those with and those without mental health problems. The authors concluded that a high burden of physical disease, together with delayed cancer diagnosis in those with psychotic disorders, were the main contributors to worse cancer survival among New Zealanders using psychiatric services.

These findings are similar to those in an Australian study of cancer mortality (Kisely et al., 2016) which asked why psychiatric patients have higher cancer mortality rates when cancer incidence is the same or lower. Mental health service users were more likely to have advanced disease at the time of diagnosis, and following diagnosis there was a reduced likelihood of surgery. For those who did have surgery, the length of time between cancer diagnosis and surgery was longer. Kisely and colleagues concluded that the answer to the research question must lie in reduced access to cancer screening, detection and intervention. These findings were consistent with disparities in access to cardiovascular interventions for this population, documented in earlier studies by the same authors (Kisely et al., 2015, p.9).

Cardiovascular disease mortality

People who experience SMI, particularly schizophrenia, have significantly reduced life expectancy and a premature mortality rate two to three times higher than the general population (Cunningham

et al., 2014). It has been estimated that CVD accounts for 40 to 50 per cent of this excess mortality in schizophrenia (Ringen, Engh, Birkenaes, Dieset & Andreassen, 2014).

A large-scale meta-analysis of prevalence, incidence and mortality from CVD involving more than three million people with severe mental illness, confirmed that people with major depressive disorder, bipolar disorder and schizophrenia were at significantly increased risk of CVD-related mortality. “Elevated body mass index, antipsychotic use, and CVD screening and management require urgent clinical attention” (Correll et al., 2017, p.163).

The authors noted their results supported accumulating data suggesting secondary prevention has been much less successful in the SMI population than in the general population, leading to the widening of the mortality gap in recent years.

These findings support those from work undertaken as part of a recent Ministry of Health review of New Zealand cardiovascular guidelines in primary care (Bagnall, Lockett & Cunningham, 2016). The review identified the relative increase in CVD risk associated with SMI and the recommended assessment and management of CVD and CVD risk in people with SMI.

Key findings were as follows:

- There is significantly increased CVD risk in people with SMI (see *Table 1*) at an earlier age than general population counterparts. For people with psychosis, CVD risk factors are present from a very early age (McLean et al., 2014; Correll et al., 2014; Foley et al., 2015; Goldstein, Schaffer, Wang & Blanco, 2015).
- Current CVD risk assessment tools are likely to underestimate the risk for this population. Studies have found that CVD risk assessment tools underestimate cardiovascular risk for this group (Rugulies, 2002; McLean et al., 2014). One study has looked at modifying risk assessment protocols specifically for this population (Osborn et al., 2015).
- Several studies point to inequities in assessment and management of CVD risk and CVD in people who experience SMI (de Hert et al., 2011; Smith et al., 2013).
- People who experience SMI have a significantly higher risk of dying from CVD than their general population counterparts. In the only New Zealand study, the standardised mortality ratio (SMR) from CVD for people using mental health services compared to the general population was 1.69 (Cunningham et al., 2014). This is consistent with international studies which have found SMR for people with SMI from 1.6 to 2.5 (Ringen et al., 2014).
- People who experience SMI have a greater risk of CVD than their counterparts in the general population. The causal pathways are complex (See *Figure 1*). Established risk factors such as tobacco smoking and diet do not fully account for this increased risk. Inequities in assessment and management of CVD risk are likely contributors along with the cardiometabolic effects of particular psychotropic medications. In a large study of patients with schizophrenia, mood disorders or dementia, the adjusted odd ratio of acute myocardial infarction risk was 2.52 for any antipsychotic, 2.32 for first generation antipsychotics, and 2.74 for second generation antipsychotics (Lin et al., 2014).

- The use of some substances, namely tobacco, alcohol, stimulants and heroin, have been linked to a higher risk of CVD. People with substance use disorders are at greater risk of premature mortality due to CVD. The high prevalence of co-existing mental health and substance use disorders needs to be recognised when assessing risk factors related to CVD (Schulte & Hser, 2014).

Table 1: Pooled estimates of relative risk of cardiovascular disease

Pooled estimates of relative risk of cardiovascular disease in people with SMI from meta-analyses published between 2000 and 2015			
Diagnosis	Relative risk	References	Number of studies
Schizophrenia (see note b)	1.53 (CI=1.27-1.86) CVD	Fan, Wu, Shen, Ji & Zhan, 2013	13 studies
	1.71 (CI=1.91-2.46) Stroke		(3,549,950 participants)
	1.20 (CI=0.53-1.53) CHD		
Depression	1.56 (CI=1.30-1.87) IHD	Charlson et al., 2013	8 studies (35,000 participants)
	2.69 (CI=1.63-4.43) CHD	Rugulies, 2002	11 studies
	1.46 (CI=1.37-2.08) CVD	Van der Kooy et al., 2007	28 studies (80,000 participants)
	1.90 (CI=1.48-2.42) CHD	Nicholson, Kuper & Hemingway, 2006	21 studies (124,509 participants)

Source: Bagnall et al., 2016

CVD = cardiovascular disease. SMI = serious mental illness. IHD = ischaemic heart disease. CHD = coronary heart disease.

Notes: a. The risk estimates from single studies were adjusted for a variety of confounders including age, sex, ethnicity, diabetes, hypertension, hyperlipidemia, smoking, diet, physical exercise, alcohol consumption. b. While only one meta-analysis is identified in this table for people with psychosis, there were several large recent cohort studies which found higher CVD risk and mortality from CVD for people with psychosis.

Potential causal pathways to increased CVD mortality for people with serious mental illness

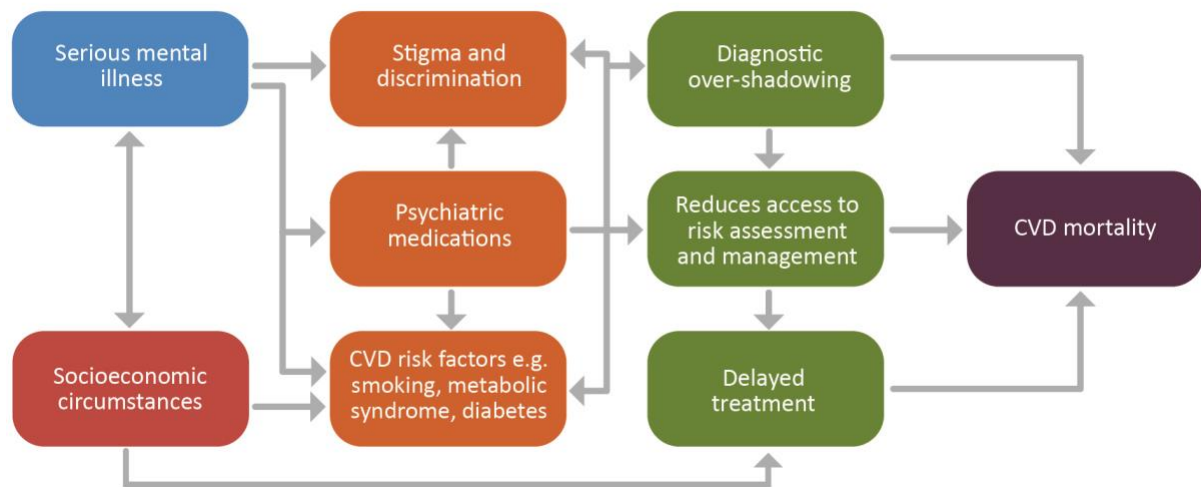


Figure 1: Potential causal pathways to increased cardiovascular disease mortality

Source: Bagnall et al., 2016

Alcohol and other drugs

Drinking alcohol, even at a moderate level, can have negative implications for physical health (Stockwell et al., 2016). There is a large evidence base about the many health problems associated with excessive drinking, as summarised by the WHO (2014).

Major disease and injury categories causally impacted by alcohol include:

- neuropsychiatric conditions (alcohol use disorders, epilepsy)
- gastrointestinal diseases (liver cirrhosis, pancreatitis)
- cancers (cancers of the mouth, nasopharynx, other pharynx and oropharynx, laryngeal cancer, oesophageal cancer, colon and rectum cancer, liver cancer and female breast cancer – the higher the consumption, the greater the risk for these cancers but even one drink a day can increase the risk of breast cancer in women)
- intentional injuries including suicide and violence towards others
- unintentional injuries from workplace accidents and road crashes
- cardiovascular diseases in heavy drinking; foetal alcohol syndrome and pre-term birth complications
- diabetes mellitus
- infectious diseases, through weakening of the immune system (WHO, 2014, p.12).

These findings were consistent with a large Danish cohort study investigating somatic diseases in alcohol dependency. It involved 19,002 men and women attending alcohol treatment and 186,767 controls (Holst et al., 2017). Hazard ratios (HR) were elevated for well-established alcohol-related

diseases but also for diseases with less-established associations such as dementia (men HR = 2.0; women HR = 2.4), psoriasis (men, HR = 4.3; women, HR = 5.4) and breast cancer in men (HR = 3.3).

Despite research that has suggested a protective effect for cardiovascular disease in moderate alcohol drinkers, a recent systematic review investigating whether this population has reduced mortality risk (Stockwell et al., 2016) suggests scepticism at best, in relation to the evidence that low-volume consumption is associated with net health benefits.

The impact of problematic substance use, other than alcohol, on physical health can also be significant. It varies according to the substance itself, the amount used, and the length of time involved. Many recreational drugs have been linked to major cardiovascular events and other comorbidities, including cocaine, amphetamines, ecstasy, heroin, phencyclidine, lysergic acid diethylamide. Cannabis, cocaine and amphetamines are strongly linked to stroke (Esse, Fossati-Bellani, Traylor & Martin-Schild, 2011), although the risks are much lower than for both alcohol and tobacco.

One of the major contributors to mortality in the global burden of diseases is the impact of opioid overdose deaths, highlighted by the dramatic increase in overdose deaths currently reported in the US (National Institute on Drug Abuse, 2017). Non-fatal overdoses also contribute to health problems including kidney failure, cardiac problems, seizures, pneumonia and stroke (Clark, 2014).

The physical health impacts of cannabis use among participants in the Dunedin Multidisciplinary Health and Development Study was investigated by Meier and colleagues (2016). It used laboratory measures of physical health (periodontal health, lung function, systemic inflammation and metabolic health), as well as self-reported physical health, at ages 26 and 38 years. Cannabis use for up to 20 years was found to be associated with periodontal disease but was not associated with other physical health problems in early midlife.

Injecting drug use significantly increases the risk of infection with HIV and hepatitis (Gowing et al., 2015). Compared with the general population, people who inject drugs have a much higher risk of death. Standardised mortality ratios for people who inject drugs are estimated at 14.68 (95% CI, 13.01, 16.35) globally, and the most common causes of mortality in this population are drug overdose and AIDS-related death (Gowing et al., 2015).

What does a more in-depth investigation of the literature on psychotropic medications tell us about their impact on physical health?

Psychotropic medication

The use of medication was only briefly discussed in the original Equally Well literature review as a key driver of poor physical health outcomes among people using medication. The focus of this report is on interventions for improving physical health, so we have summarised research investigating the adverse effects of psychotropic medication on physical health⁴ and how this might be mitigated.

Research findings on the impact of psychotropic medications on physical health are complex due to the many different types of medication, how they are prescribed, and their different effects on a range of mental and physical health problems. The Royal Australian and New Zealand College of Psychiatrists (RANZCP) guidelines on the treatment of schizophrenia and related disorders (Galletly et al., 2016), and mood disorders (Malhi et al., 2015), provide detailed information about the side effects of medications used in Australian and New Zealand clinical settings, together with advice on the mitigation and management of these side effects.

Malhi and colleagues (2015) discuss safety issues related to antidepressant prescribing in some detail, including their impact on physical health. Safety is of particular concern at certain life stages such as adolescence, old age, during pregnancy and when breastfeeding. Risks associated with new generation antidepressants selective serotonin reuptake inhibitors (SSRIs), need to be balanced against the possible harm from depression itself on the health and safety of the person concerned.

This section draws on the RANZCP guidelines and recent review studies, and presents both clinical evidence (of which a great deal has been published) and material found on the experience of service users in relation to their medication.

Morbidity

The adverse effects of psychotropic medication on physical health are wide-ranging. A comprehensive systematic review of 284 studies investigated the effects of antipsychotics, antidepressants and mood stabilizers on physical health outcomes among people with schizophrenia, depression and bipolar disorder (Correll et al., 2015). It found that antipsychotics, and to a lesser degree antidepressants and mood stabilizers, are associated with an increased risk for

⁴ Basic information about the side effects of all medication available in New Zealand can be accessed online by both consumers and healthcare professionals through Medsafe⁴, a business unit of the Ministry of Health at <http://www.medsafe.govt.nz/>

obesity, dyslipidemia, diabetes mellitus, thyroid disorders, hyponatremia, and cardiovascular, respiratory tract, gastrointestinal, haematological, musculoskeletal and renal diseases, as well as movement and seizure disorders. Higher dosages, polypharmacy and treatment of old or young individuals are associated with greater risk. *Table 2* provides an overview of evidence found by Correll and colleagues (2015) on adverse physical health outcomes associated with identified drugs.

Table 2: Adverse effects of antipsychotics, antidepressants and mood stabilisers on specific physical health outcomes.

Physical health disease/condition	Antipsychotics	Antidepressants	Mood stabilisers
Nutritional and metabolic			
Obesity	0/+ (haloperidol, lurasidone, ziprasidone, aripiprazole) to +++ (clozapine, olanzapine, low potency FGAs)	- (bupropion) to + (mirtazapine, paroxetine, TCAs)	0 (lamotrigine) to ++ (valproate, lithium)
Dyslipidemia	+ to ++	0 to + (if weight gain)	- (valproate: cholesterol) to +
Endocrine system diseases			
Diabetes	0/+ (haloperidol, lurasidone, ziprasidone, aripiprazole) to +++ (clozapine and olanzapine > low and mid potency FGAs)	0 - +	0 - ++ (valproate)
Thyroid disorders	0	0	0 - ++ (lithium)
Hyponatremia/SIADH	+	+ to ++ (SSRIs)	0 - +
Cardiovascular diseases			
Hypertension	0 - ++	0 - + (venlafaxine)	0
Coronary heart disease and stroke	+ - ++	0 to +	0 to +
Myocarditis	0 - +	0	0
QTc prolongation/sudden cardiac death	0 - + (thioridazine>sertindole > ziprasidone)	0 to + ?	0
Respiratory tract diseases			

Physical health disease/condition	Antipsychotics	Antidepressants	Mood stabilisers
Pneumonia	+ to ++ (clozapine)	0	– (lithium) to 0
Gastrointestinal diseases			
Constipation/gastrointestinal hypomotility	0 to ++ (clozapine)	0 to + (TCAs)	0
Liver dysfunction	0 to ++ (often early and transient)	+	0 to ++ (valproate > carbamazepine)
Neoplasms			
Breast cancer	0 to + ?	0	0
Prolactinoma	0 ?	0	0
Musculoskeletal diseases			
Osteoporosis	0 to + (prolactin-raising antipsychotics)	+	- (lithium) to 0
Hematologic diseases			
Leucocytopenia/agranulocytosis	+ to +++ (clozapine)	0 to +	0 to ++ (carbamazepine)
Thrombocytopenia	0	0	0 to ++ (valproate)
Other physical diseases			
Kidney diseases	0	0	0 to ++ (lithium)
Movement disorders	+ to +++	0 to +	0 to +
Seizure disorders	+ to ++ (clozapine)	0 to + (TCAs>bupropion)	- to + (lithium toxicity)

– = reduction; 0 = likely/generally no effect; + = some effect; ++ = moderate effect; +++ = marked effect; ? = questionable

SIADH – syndrome of inadequate antidiuretic hormone secretion; FGAs – first generation antipsychotics; SSRIs – selective serotonin reuptake inhibitors; TCAs – tricyclic antidepressants

Source: Correll et al., 2015, p.121

The authors concluded that “adverse effects on physical health are greatest with antipsychotics, followed by mood stabilizers, tricyclic antidepressants and newer antidepressants” while also noting that “nationwide studies providing generalizable data have suggested that all-cause mortality is higher in patients with schizophrenia not receiving antipsychotics” (Correll et al., 2015, p.129).

Cardiometabolic effects

As noted elsewhere in this report, cardiovascular disease significantly increases mortality risk in people with serious mental health conditions and antipsychotic use has been shown to contribute to this risk, alongside body mass index and higher baseline CVD prevalence (Correll et al., 2017). For this reason, Correll and colleagues argue that:

It is imperative that clinicians a) only utilize antipsychotics, particularly for non-psychotic conditions, when alternative treatment options with lower CVD risk potential have been tried sufficiently; and b) screen for and manage emerging and existing CVDs as well as their risk factors, including weight gain and elevated body mass index. Our data...clearly suggest there is an urgent need to prevent and manage CVD risk in this population (Correll et al., 2017, p.176).

Metabolic syndrome (MetS) is a term used to describe a group of risk factors that increase the likelihood of certain conditions including heart disease, diabetes and stroke. Weight gain, together with elevated cholesterol and glucose are the most common risk factors associated with psychiatric medication. Recent studies investigating metabolic risk factors and diseases associated with psychiatric medication are summarised below.

Guidelines produced by the RANZCP summarise the relative frequency of common side effects of antipsychotics (Galletly et al., 2016) and confirm that all first- and second-generation antipsychotics are associated with weight gain (with the exception of aripiprazole). Clozapine, olanzapine, chlorpromazine and fluphenazine have the strongest associations with weight gain. All except fluphenazine are also strongly associated with other metabolic risk factors such as dyslipidaemia – elevation of plasma cholesterol, triglycerides, or both.

A meta-analysis of antipsychotic-induced weight gain in 4,139 people with first-episode psychosis (FEP) similarly found that most antipsychotic medications were associated with significant weight gain, in both the short and long terms (Tek et al., 2016). However, ziprasidone was not associated with weight gain in the short term. The authors noted that “the initial selection of medication in FEP may present an opportunity for preventing morbidity decades later” (Tek et al., 2016, p.377).

In a head-to-head meta-analysis of randomized controlled trials studying the metabolic side effects of second generation antipsychotics (SGAs), Rummel-Kluge et al. (2010) found that olanzapine and clozapine had the greatest impact on weight, cholesterol and glucose. “Quetiapine, risperidone, and sertindole had intermediate elevations. Aripiprazole and amisulpride displayed intermediate or low elevations and ziprasidone the lowest elevations” (Rummel-Kluge et al., 2010, p.260). Weight gain was found to be rapid in the first few weeks then decreases gradually until it plateaus after several months.

A systematic review comparing the efficacy and safety of SGAs versus first generation antipsychotics (FGAs) in FEP found that SGAs increased weight more (Zhang et al., 2013). Weight increases with olanzapine, risperidone and clozapine were found to be greater than with all other antipsychotic drugs. Olanzapine was also associated with greater metabolic changes in people with FEP.

These findings were confirmed in another systematic review and meta-analysis (Vancampfort, Stubbs, Mitchell, De Hert, Wampers, Ward, Rosenbaum & Correll, 2015).), which found that people treated with all individual antipsychotic medications had a significantly ($p<0.001$) higher MetS risk compared to antipsychotic-naïve participants. MetS risk was significantly higher with clozapine and olanzapine than other antipsychotics, and significantly lower with aripiprazole than other antipsychotics (except vs. amisulpride).

Metabolic syndrome and its components, particularly obesity, are highly predictive of cardiovascular diseases (Ringen et al., 2014; Vancampfort, Stubbs, Mitchell, De Hert, Wampers, Ward, Rosenbaum & Correll, 2015). As discussed above, several meta-analyses have shown that on a group level, clozapine and olanzapine are considered to be the most obesogenic, closely followed by quetiapine. Risperidone, sertindole and typical antipsychotics are in an intermediate position, while aripiprazole, amisulpride and ziprasidone seem to carry the lowest risk (Ringen et al., 2014).

Patients treated with clozapine “have consistently been demonstrated to have significantly ($p<0.001$) higher MetS prevalence than those treated with any other individual antipsychotic medication. Those treated with olanzapine had significantly higher MetS prevalence than those treated with amisulpride ($p<0.05$), aripiprazole ($p<0.001$), risperidone ($p<0.01$) and typical antipsychotic medications ($p<0.05$)” ((Vancampfort, Stubbs, Mitchell, De Hert, Wampers, Ward, Rosenbaum & Correll, 2015, p.343).

Yet despite the obvious risks due to metabolic side effects, antipsychotic use has not been consistently shown to increase cardiovascular morbidity or mortality in schizophrenia, and it is clear that the increase in CVD risk cannot be attributed to a single mechanism. Ringen and colleagues (2014) concluded that there may be several points of action available for the primary prevention of the increased risk for CVD. They noted that better coordination of the healthcare system is a key factor.

The RANZCP guidelines on mood disorders provide guidance on managing cardiovascular risk associated with antidepressants. In particular, tricyclic antidepressants (TCAs) have well-known cardiovascular side effects and have been shown to increase cardiac morbidity and mortality in patients with heart disease (Malhi et al., 2015).

Substance use, notably tobacco and alcohol (Slagter et al., 2014) and other substances have been reported as increasing the risk for MetS (Vidot, Aheart, Prado, Bandstra & Messiah, 2013). While treatment for substance use disorders could be expected to ameliorate the ongoing risk of MetS, the medication commonly used to treat opioid use disorders, methadone, has been implicated in significant weight gains for people in treatment (Fenn et al., 2015; Sadek, Chiu & Cernovsky, 2016). The impact on MetS of receiving methadone treatment has yet to be systematically studied however a recent study (Vallecillo et al., 2017) identified that 29 per cent of a cohort of 122 people receiving methadone were diagnosed with MetS.

There is evidence that methadone and buprenorphine treatment is associated with substantial reductions in the risk for all cause and overdose mortality in people dependent on opioids (Sordo et al., 2017). However, methadone has been implicated in cardiac arrhythmias such as torsade de pointes (TdP). The association between methadone, even at therapeutic dosages, and TdP or sudden cardiac death have been reported (Chou, Weimer & Dana, 2014). Methadone has also been associated with respiratory depression and overdose, elongated QT interval, galactorrhoea, lower sex hormone levels with associated risks of fractures, oedema, weight gain, chronic constipation and a range of gastrointestinal effects.

To enable alternative treatment, recommendations involving QTc screening of patients receiving methadone treatment have been developed to identify patients with QTc above the thresholds considered at risk for cardiac arrhythmias. However, a Cochrane review evaluating the efficacy and acceptability of QTc screening for preventing cardiac-related morbidity and mortality among people using methadone for opioid dependency (Pani, Trogu, Maremmanni & Pacini, 2013) found no evidence to support the use of the electrocardiogram for preventing cardiac arrhythmias in this group.

Evidence about the impact of long-term or protracted use of other medications routinely used in addiction treatment – naltrexone, acamprosate and disulfiram – was not found in this review.

Managing weight gain associated with medication

There has been a lot of research undertaken on how to mitigate the weight gain associated with the use of psychotropic medication, and particularly clozapine. The strongest evidence for effectiveness in this area is related to the diabetes medication, metformin. A recent meta-analysis found that metformin was superior to placebo in terms of weight loss and significantly improved three components of metabolic syndrome; waist circumference, fasting glucose and triglycerides (Siskind, Leung, Russell, Wysoczanski & Kisely, 2016). Metformin is recommended in the management of first-episode psychosis in RANZCP guidelines (Galletly et al., 2016).

An Australian metformin prescribing tool has also been developed for clinicians (Smith, Myles & Galletly, 2017) based on a comprehensive literature review and an education session presented to psychiatrists and psychiatry trainees.

Gastrointestinal

Constipation and related complications are very common among people using clozapine, causing not only great discomfort but also serious and life-threatening conditions. Every-Palmer and colleagues (2017b) studied a small cohort of 14 people who were on clozapine to determine whether commonly used laxative treatment changed gastrointestinal motility (thereby reducing the risk of complications). The authors found that the Porirua Protocol (which described the laxative intervention) appeared effective in improving colonic motility. They argued that the use of laxatives in people using clozapine is deserving of further investigation through randomised controlled trials.

Every-Palmer and Ellis (2017a) subsequently published a review of Australian and New Zealand reports, between 1992 and 2013, of serious clozapine-induced gastrointestinal hypomotility (CIGH), more commonly known as slow gut. Of the 43,132 individuals commencing clozapine during this period, 160 were reported as having this condition and few had received laxatives. At least 29 of these people had died from suspected CIGH.

The authors also examined clozapine drug safety information in Australia, New Zealand, the US and UK, to assess whether this information was adequate to the seriousness of the problem. They found that the information provided in current guidance was uniformly poor in all four countries.

CIGH is very common in people treated with clozapine. Studies indicate that between 50-80 per cent are affected, at considerable cost to the person's quality of life. Yet despite the potential seriousness of the condition, knowledge about identification, prevention and management is poor. The authors recommend that regulators update their guidance in this area, and that health professionals, carers and clozapine users carefully monitor bowel function and the use of prophylactic laxatives.

Opioid-induced constipation is well established as a side effect of opioid use (Webster, 2015). As people tend to receive methadone for extended periods of time, constipation is a common long-term side effect.

Sexual and reproductive health

In their systematic review of the prevalence and management of antipsychotic adverse effects, Young, Taylor and Lawrie (2015) confirmed the pattern of adverse effects for a range of health conditions already well-established. In addition, they found that 50 per cent of men and 25-50 per cent of women treated with antipsychotics experienced sexual dysfunction.

Second generation antidepressants (SGAD) are also associated with sexual dysfunction. A systematic review investigating this association in people with major depressive disorder (Reichenpfader et al., 2014) concluded that the comparative risk of sexual dysfunction associated with a specific antidepressant cannot be precisely determined. However, the authors found three main patterns. Bupropion had a statistically significantly lower risk of sexual dysfunction than some other SGAD, and both escitalopram and paroxetine showed a statistically significantly higher risk of sexual dysfunction than some other SGADs.

A common side effect of some antipsychotic drugs is an increase in prolactin levels which can result in breast discharge and menstrual problems in women. A comprehensive review investigating the impact of antipsychotics on serum prolactin levels (Peuskens, Pani, Detraux & De Hert, 2014) found that antipsychotics with a high potential for prolactin (PRL) elevation (amisulpride, risperidone and paliperidone) can have a profound impact on PRL levels, even at relatively low doses.

Sexual dysfunction has been reported as a common side effect of methadone treatment and a 2014 meta-analysis identified that 52 per cent of men in treatment report sexual dysfunction (Yee, Loh,

Hisham & Ng, 2014). Men receiving methadone were four times more likely than men receiving buprenorphine to report sexual dysfunction.

Respiratory conditions

Antipsychotic use has been associated with an acute and dose-dependent increased risk of acute respiratory failure (ARF) in patients with chronic obstructive pulmonary disease (COPD), a chronic smoking-related lung condition. A Taiwanese population-based case-crossover study (Wang et al., 2017) investigated the impact of antipsychotic drugs in 5,032 patients with COPD and newly diagnosed ARF. The use of antipsychotic drugs was associated with a 1.66-fold increased risk of ARF within 14 days of therapy initiation. Clinicians are therefore advised to exercise caution when prescribing antipsychotics to patients with COPD and avoid high doses if possible (Wang et al., 2017).

Oral health

Although it is common for people being treated with antipsychotics to experience dry mouth (xerostomia), very little recent research was found that focused on dental disease associated with this side effect of psychotropic medication. Olanzapine, quetiapine and sulpiride have been demonstrated to be more likely than other antipsychotics to cause dry mouth (Lai et al., 2016).

The impacts of methadone on oral health include higher incidence of dental caries, xerostomia, bruxism and poor oral hygiene (Raymond & Maloney, 2015).

A systematic review and meta-analysis of epidemiological studies on edentulism (tooth loss) and dental caries (tooth decay) in people with SMI followed previous work by the same authors (Kisely et al., 2015). They found that people with SMI had 2.8 times the risk of having lost all their teeth compared with the general population, and significantly worse decay and more missing and filled teeth. Xerostomia caused by medication was identified as an important contributing factor to serious oral health problems. A Malaysian study of tooth decay and gum disease in people with schizophrenia (Wey, Loh, Doss, Abu Bakar & Kisely, 2016) found similar problems and concluded that the oral health of people who experience mental health issues has been neglected for too long. The authors called for greater collaboration between dental professionals and other services.

Kisely and colleagues (2015) noted that in addition to these often painful dental problems, poor oral health can predispose people to a range of other chronic physical diseases which can result in admissions to hospital. They noted that this issue remains under-studied, particularly in light of the known serious systemic diseases associated with poor oral health, such as diabetes, cardiovascular disease and bacterial pneumonia. Possible interventions identified by the authors included oral health assessment able to be conducted by non-dental personnel using standard checklists, help with oral hygiene, management of iatrogenic dry mouth, and early dental referral.

A later systematic review undertaken by Kisely, Sawyer, Siskind and Lalloo (2016), investigated the oral health of people with anxiety and depression and found significantly higher rates of both dental

decay and tooth loss than those in the general population. However, this disparity was less marked than for people with schizophrenia and bipolar disorder.

Osteoporosis

A Canadian population-based cohort study, involving 68,730 individuals, examined the association of mental disorders and psychotropic medication use with osteoporotic fracture risk in routine clinical practice (Bolton et al., 2017). Both mental disorders and medication use were found to be associated with an increased risk for fracture, but only medication use was independently associated with fracture.

Cancer risk

In their systematic review of the effects of antipsychotics, antidepressants and mood stabilizers on physical health outcomes in people with schizophrenia, depression and bipolar disorder, Correll and colleagues (2015) found very little evidence of these medications increasing cancer risk.

However, in view of their widespread and steadily increasing use in the US, a systematic review of the carcinogenicity of psychotropic drugs utilised US Food and Drug Administration-approved data (animal studies) to assess potential biological risk of carcinogenicity in humans (Amerio, Gálvez, Odone, Dalley & Ghaemi, 2015). There was an estimated 27 million people treated with antidepressants in 2005 compared with 13.3 million in 1996. The largest share of psychotropic drug prescriptions in the US occur in primary care, mainly for the treatment of anxiety and depression (Amerio et al., 2015), prompting the authors to investigate this issue further.

The results showed that more than 70 per cent of psychotropic agents studied (30/42) had some preclinical evidence of carcinogenicity. Antidepressants that were *not* associated with carcinogenicity were fluoxetine, venlafaxine, trazodone and imipramine. All antipsychotics were associated with carcinogenicity except clozapine (Amerio et al., 2015).

These findings from animal studies are very limited in establishing risk to humans, however, there are clinical studies cited by the authors that report slightly elevated risk for some cancers with the use of antidepressants, which could have a population effect through widespread use. The findings are far from conclusive, but the authors draw attention to similarities in the case of widespread use of hormone replacement therapy, where cancer risk went undetected for decades.

Uncommon but very serious side effects

Neuroleptic malignant syndrome

Neuroleptic malignant syndrome (NMS) is a rare but potentially fatal adverse reaction to antipsychotic drugs, characterized by hyperthermia, rigidity, autonomic dysfunction and changes in consciousness.

In a systematic review and case report analysis, Murri and colleagues (2015) investigated NMS induced by different antipsychotics. Primary studies suggested that NMS induced by second

generation antipsychotics is characterized by lower incidence, lower clinical severity and less frequent lethal outcome than NMS induced by first-generation antipsychotics. However, analysis of case reports suggested that even recently-marketed antipsychotics were not free from the risk of inducing NMS.

A UK study investigating the association between NMS and levels of antipsychotic exposure (Suet al., 2014), identified 67 cases from electronic data where mental health service users had been diagnosed with NMS. These cases were individually matched with 254 controls on age, gender and primary psychiatric diagnosis. NMS was associated with a higher number of antipsychotic agents used, use of first-generation agents or aripiprazole, use of first generation agents only or cross-generation agents, and higher mean and maximum daily doses. The use of haloperidol, aripiprazole, depot flupentixol and benzodiazepines was independently associated with NMS. NMS was primarily associated with type of antipsychotic and polypharmacy rather than overall dose (Su et al., 2014).

Agranulocytosis

Agranulocytosis is a rare, acute condition involving a severe and dangerous leukopenia (lowered white blood cell count) associated with the use of various drugs, including clozapine. A recent systematic review of the efficacy and tolerability of clozapine in the treatment of youth with early onset schizophrenia (Schneider, Corrigan, Hayes, Kyriakopoulos & Frangou, 2013) found that there is currently no evidence to suggest that the young patients are at higher risk of agranulocytosis than adults.

Toxicity on overdose

Overdose is a concern among people likely to be at risk of self-harm or suicide. However, it is noted that “new generation antidepressants, while not without risk (particularly venlafaxine), are significantly safer than the tricyclic antidepressants (TCAs) or irreversible monoamine oxidase inhibitors (MAOIs)” (Malhi et al., 2015, p.1111).

Pneumonia

Antipsychotics are associated with increased risk of pneumonia in some people, thought to be related to side effects of sedation, although the causes are not clear. A retrospective, case-matched study of 465 people compared the incidence of pneumonia in people taking clozapine with those taking risperidone or no atypical antipsychotics at all, before admission to a tertiary care medical center (Stoecker et al., 2017). Clozapine was associated with an increased risk of pneumonia when compared with the untreated general population. There was, however, no significant increase in the risk of pneumonia associated with the use of risperidone.

Mortality

In their meta-review investigating excess mortality (premature deaths) in people with experience of SMI, Baxter et al., (2016) describe the evidence on psychiatric medication effects as equivocal. In other words, the role of medication in mortality is not clear-cut.

For example, in another review study, Weinmann, Read and Aderhold (2009) investigated the risk of premature death in people with schizophrenia. They found some support for the hypothesis that long-term exposure to antipsychotics increases mortality among people with schizophrenia. However, in studies of people with schizophrenia, comparing those using antipsychotics with those not using antipsychotics, the authors found increased mortality only where several antipsychotics were prescribed (polypharmacy), or where medication had been discontinued.

In fact, a protective effect for antipsychotic use was reported by Weinmann and colleagues (2009), whereby a 2-10-fold reduction in mortality was identified for patients who used antipsychotic medication compared with those who did not, in two retrospective cohort studies (Tiihonen et al., 2006; Haukka, Tiihonen, Härkänen & Lönqvist, 2008).

A Finnish case-control study of the role of psychotropic medication in the risk of sudden cardiac death (SCD) during an acute coronary event (Honkola et al., 2011), found support for a causal relationship between psychotropic prescribing and SCD, particularly in the use of antipsychotics and antidepressants. A particularly high risk of SCD was observed in people using phenothiazines and any antidepressant (OR: 18.3, 95% CI, 2.5-135.3).

Another systematic review investigated antipsychotic medication and long-term mortality risk in people with schizophrenia (Vermeulen et al., 2017). The 20 studies included reported a total of 23,353 deaths in 133,929 individuals (17.4 per cent). The authors compared mortality rates of patients with any antipsychotic exposure, to patients who did not use antipsychotic medication, and also explored the association of cumulative exposure to psychotic medication with mortality.

As noted in previous review studies, there was a great deal of variation in findings, with unadjusted mortality rates for people using any medication ranging from 1.91 to 43.31 per 1,000 patient years. The authors discussed the many difficulties in interpreting and evaluating these findings in light of differences in methodology across studies, and firm conclusions were not able to be drawn about the association between antipsychotic use and long-term mortality.

However, aggregate findings of four cohort studies that were included in the review (a total of 22,141 deaths in 715,904 patient years were included in these four studies) suggested an association between patients who did not use antipsychotic medication and an increased long-term mortality risk.

In spite of difficulties in quantifying mortality risk, there is sufficient evidence of the potentially serious impact of psychotropic medication on physical health to inform improvements in clinical practice.

Baxter and colleagues (2016) found sufficient evidence about the risk to cardiac health to support comprehensive cardiovascular risk management processes for people taking antipsychotic medication. The authors noted:

The growing inequity in life expectancy, particularly due to heart disease mortality, underlines the need for better physical healthcare programmes for this group. Two areas that warrant immediate action are improving adherence to psychiatric pharmacological guidelines, and improving adherence to guidelines for monitoring metabolic health (Baxter et al., 2016, p.327).

Balancing the risks and benefits

While the physical health impacts of psychotropic medication can be serious and even life-threatening, so are the impacts of serious mental health conditions and addiction. Clinicians have the difficult task of balancing the risks and benefits of medication in the best interests of their patients.

This is a contentious and difficult matter, for both clinicians and mental health service users, and research findings can be hard to generalise from. While there are many well-documented physical health impacts associated with psychotropic medication, a protective effect for antipsychotic use was reported by Weinman and colleagues (2009), and there is evidence that all-cause mortality is higher in patients with schizophrenia not receiving antipsychotics (Correll et al., 2015).

An example of the complexity of psychotropic prescribing is in the use of clozapine, commonly used in New Zealand for the treatment of schizophrenia. The serious adverse physical health effects of this antipsychotic drug have led many to question why this particular drug is used at all, especially since those on the drug tend to remain on it for many years, often under compulsory treatment orders.

Every-Palmer and Ellis (2017a) addressed this question in a New Zealand study of clozapine-induced gastrointestinal hypomotility and constipation. They argued that clozapine has well-established advantages for people with treatment-resistant schizophrenia, such as reducing rehospitalisation rates, and facilitating transition into community living, employment and social functioning for those people who have limited or no choice for effective medication.

Furthermore, there is evidence that the majority of clozapine users find the drug helpful. An Australian survey of people with psychosis (Waterreus et al., 2012) found that 92.3 per cent of clozapine users reported they were adherent with their medication, 87 per cent said it was helpful for their mental health, and 63 per cent said it eased their mental health symptoms a lot.

The mental health benefits of clozapine are certainly well-documented and reflected in international evidence-based clinical guidelines, but it is only recently that guidance on managing the physical health side effects of antipsychotics has had prominence in clinical guidelines (NICE, 2014).

New evidence is always emerging and challenging accepted practice. For example, a recent network meta-analysis investigating medication for treatment-resistant schizophrenia concluded that in blinded randomised controlled trials – in contrast to unblinded, randomised effectiveness studies –

there is insufficient evidence of the superiority of clozapine compared with other second-generation antipsychotics (Samara et al., 2016).

There is also the matter of the ongoing need to develop better drugs. Watterreus and colleagues (2012) found that medications are still not fully effective for a substantial minority of people with psychosis. They argue that this, along with the high side-effect burden associated with these medications, highlights the critical importance of developments in the field of psychopharmacology to develop medications better targeted to individual user profiles.

The physical health consequences of ongoing substance use are considerably greater than the use of medication assisted treatment. However, when the medication carries significant risks of overdose and/or diversion, as is the case with methadone, the risk benefit analysis becomes more complex. The Ministry of Health has developed standard guidelines for Opioid Substitution Treatment⁵ to reduce these risks.

Adherence and withdrawal

There is evidence that as many as half of people with SMI do not take their medication as prescribed (Gibson et al., 2013) and many attempts to withdraw from their medication without the knowledge of, or support from, their health service provider (Salomon & Hamilton, 2013; Larson-Barr 2016). This is concerning in light of the serious decline experienced by the majority of mental health service users withdrawing from medication without support, as documented by Salomon and Hamilton (2013). Many of these people reported having suicidal and self-harm urges, thoughts of harming others, depression, auditory hallucinations and sleeping problems.

The issue of non-adherence to medication is investigated and discussed extensively in the research literature, often in relation to psychosis. A recent systematic review investigating risk factors for suicide in adults and children with schizophrenia, concluded that “the only consistent protective factor for suicide was delivery of and adherence to effective treatment” (Hor & Taylor, 2010, p.81).

Yet findings from the 20-year outcome data of the Chicago Follow-Up Study (Harrow, Jobe & Faull, 2012) suggested that mental health service users who decided not to take antipsychotics did relatively well, compared with those who took the medication continuously. In this study, 139 young people with psychosis, 70 people with schizophrenia syndromes and 69 with mood disorders, were assessed, prospectively, at the acute phase and then followed up six times over the next 20 years. Standardised instruments were used to assess major symptoms, psychosocial functioning, personality, attitudinal variables, neurocognition and treatment.

⁵ Retrieved from <http://www.health.govt.nz/publication/new-zealand-practice-guidelines-opioid-substitution-treatment-2014> on 23 August 2017.

At each follow-up, 30-40 per cent of people with schizophrenia were no longer on antipsychotics. Starting at the 4.5-year follow-ups and continuing thereafter, participants who were not on antipsychotics for prolonged periods were significantly less likely to be psychotic, experienced more periods of recovery, and had more favorable risk and protective factors.

The authors concluded that not all schizophrenia patients need treatment with antipsychotics continuously throughout their lives.

Schizophrenia patients not on antipsychotics for prolonged periods are a self-selected group with better internal resources associated with greater resiliency. They have better prognostic factors, better pre-morbid developmental achievements, less vulnerability to anxiety, better neurocognitive skills, less vulnerability to psychosis and experience more periods of recovery (Harrow et al., 2012, p.2145).

In an editorial from the *British Journal of Psychiatry* (Morrison, Hutton, Shiers & Turkington, 2012) the authors discuss the question of whether everyone diagnosed with schizophrenia requires antipsychotics in order to recover. They argue that there is good evidence that the clinical effectiveness of second-generation antipsychotics has been overestimated, the seriousness of their adverse effects underestimated, and refer to emerging data on alternative treatments. Given the body of evidence in support of these observations, together with high rates of non-adherence and discontinuation of antipsychotic medication, the authors argue for a re-evaluation of the risk-benefit profile of antipsychotic medication, and a more collaborative approach to prescribing, including discussion of the possibility of not prescribing at all.

Morrison and colleagues (2012) note that there is very limited research on alternatives to medication for treating psychosis, as most of these are psychosocial interventions that have been evaluated as an adjunct to medication. Clearly, a more robust evidence base is needed in this area.

RANZCP clinical guidelines on mood disorders provide detailed guidance on all aspects of medication, including the monitored withdrawal from antidepressants, as follows:

When patients have received maintenance antidepressant medication, cessation of medication should occur slowly with a taper over an extended period of time because withdrawal symptoms may be experienced. Discontinuation symptoms may emerge following the cessation of all classes of antidepressants (Malhi et al., 2015, p.1129).

More frequent visits are recommended to ensure adequate monitoring, and patients and their families should be advised of potential symptoms.

Antipsychotic medication cessation is covered by RANZCP guidelines on schizophrenia but not in any great detail. The guidelines state that “medical supervision during and after medication cessation is essential”, and that “the support of family and friends in monitoring changes in mental state or social function, is helpful” (Galletly et al., 2016, p.429).

Psychotropic prescribing trends

There is evidence of a worldwide trend for increased prescribing of psychotropic medication, alongside relatively static prevalence of SMI within countries (Stephenson, Karanges & McGregor, 2013). Most of this prescribing is taking place in primary care.

Analysis of Australian longitudinal data indicates an increase of 22.7 per cent in the number of subsidised antipsychotic prescriptions was identified over the four-year period to 2012 (Karanges, Stephenson, & McGregor, 2014). The study found that nearly 90 per cent of antidepressants and more than 70 per cent of antipsychotics were prescribed by Australian GPs during this time.

The authors also reported large increases in the use of psychotropic medication in child and adolescent populations, raising the serious concern of “the likely overmedication of persons with mild psychological distress, and the increasing use of powerful psychotropic medications in younger populations despite uncertain risk-benefit profiles” (Karanges et al., 2014, p.1).

Stephenson and colleagues (2013) found that the increase in prescribing in Australia between 2000 and 2011 was driven by major increases in antidepressants (95.3 per cent increase), atypical antipsychotics (217.7 per cent increase) and attention-deficit hyperactivity disorder (ADHD) medications (72.9 per cent increase). The following concerns were raised:

(1) the continuing high use of benzodiazepines, particularly alprazolam, despite their problematic effects; (2) the rapid increase in serotonin noradrenaline reuptake inhibitor (SNRI) use, given their more complex side-effect profile relative to selective serotonin reuptake inhibitors (SSRIs); and (3) the dramatic increase in antidepressant prescriptions despite questions about the efficacy of these drugs in mild to moderate depression (Stephenson et al., 2013, p.74).

It is likely that increasingly widespread use of psychotropic medication among children and young people in Australia is also happening in New Zealand. This raises concerns about possible adverse mental and physical health effects associated with the use of some second-generation psychotropic drugs in young people, and argues for more detailed analysis of data about their use in New Zealand.

There is some New Zealand evidence that the increase in the number of antipsychotic prescriptions is partly due to off-label prescribing (Monasterio & McKean, 2011) of atypical antipsychotic (AAP) medications, most commonly, quetiapine. Off-label is a term used to describe the use of a medication for purposes other than those the drug has been designed and tested for in clinical trials. The authors surveyed 48 psychiatrists in Canterbury and found that nearly all had prescribed AAPs for an off-label indication. This was most commonly quetiapine, prescribed mainly for anxiety and sedation, but also for post-traumatic stress disorder (PTSD) and alongside other antipsychotics. The off-label use of quetiapine in New Zealand accounted for an estimated 17 per cent of the AAP spend in 2010 (McKean & Monasterio, 2012).

The authors identified “a pressing need to know to what extent they [AAPs] are used in primary care settings, what factors contribute to their popularity and to ensure that patient safety is not jeopardised...” (Monasterio & McKean, 2011, p.4).

In commenting on the findings of Monasterio and McKean (2011), Glue and Gale (2011) noted various study design issues, and cited several studies that supported the off-label use of quetiapine for the purposes identified above, with the exception of its use in polypharmacy which is not supported by evidence. They noted a paucity of alternative safe and effective drugs available for anxiety, sedation and PTSD, which may explain the increasing use of quetiapine. They also discussed evidence of the impact of quetiapine on physical health, specifically in relation to metabolic side effects which are known to occur “even at relatively low doses”, and “a dose-related increase in sudden cardiac death rate in the short term...” (Glue & Gale, 2011, p.11).

Service user experience of psychotropic medication

In recent years, several qualitative studies have attempted to better understand the experience of people being treated in mental health and addiction services to inform quality improvement. This section provides a summary of studies focusing on medication.

A New Zealand study investigated the experience of people using oral antipsychotic medications (AMs). It used an anonymous online survey of 144 adults who had ever taken AMs for any reason for more than three months, together with seven in-depth interviews of people who had discontinued AMs for more than one year (Larsen-Barr, 2016). Participants reported a range of diagnoses including schizophrenia spectrum disorders, bipolar disorder and depression.

Half of the survey participants described a primarily negative first prescription experience. Other treatment options were rarely offered at first prescription but were nevertheless used by many. Few people reported being well-informed of the potential benefits and risks. Descriptions of taking AMs ranged from “life-saver” and “useful tool” to “mixed bag” and “hell”. Most experienced both benefits and adverse effects. Most (79 per cent) had contemplated stopping AMs, and 73 per cent reported making at least one attempt, with variable preparations, methods and outcomes described.

Focus group interviewees revealed that maintaining wellbeing during and after withdrawal from AMs involved coming to understand themselves and their needs, connecting with supports, and finding strategies that worked for them. Antipsychotic medications could be experienced as crucial lifesavers, useful tools with drawbacks and/or destructive forces to endure or escape. Attempted discontinuation was common and some people succeeded in their efforts to stop.

The most common benefits of medication were reduced symptoms, followed by increased sleep, stabilised moods, reduced anxiety, and improved functioning in terms of relationships, coping with stress and/or occupational activities. Here are some quotes from participants about medication benefits:

"I have been able to get married, get to my 10th wedding anniversary, have two dogs and two cats and be godfather to one of my friend's children, and best-man at another friend's wedding."

"The bizarre intrusive thoughts were under control and that enabled me to investigate what they were, why they happened and how to manage them in the future."

"I describe it like [the voices] stay at the back of my head now instead of occupying me for most of the day."

"Hallucinations are not so vivid and don't last long."

"Calmed the voices and paranoia down so that I could manage to keep my job as able to concentrate better."

Adverse effects were reported by 97.2 per cent of participants. Most reported sedation, more than two-thirds gained weight, and around half reported emotional numbing, loss of motivation, a changed sense of self, dry mouth, and loss of libido. One in six reported an increase in suicidality.

Conditions of informed consent were uncommon, with few people saying they were well-informed of the benefits and risks or offered any other option at first prescription. Some described being too unwell to process this at the time.

Beyond the first prescription, there were numerous reports of ongoing confusion, a continuing lack of information provision and a narrow focus on AMs as the only options...it appears that even without a compulsory treatment order, the power imbalance inherent in the clinical relationship produced a loss of autonomy and agency that prevented some people from voicing their concerns, requesting other options, or discussing a desire to stop. ...Furthermore, some described how prescribing clinicians did not seriously consider their experiences when they did voice them or gave invalidating responses (Larsen-Barr 2016, p.76).

Of the 65 participants who had attempted discontinuation of medication, almost two-thirds had made multiple attempts. The majority reported making advanced preparations for their attempt such as gathering information, informing family, partner or spouse of plans and preferences for support, and making a gradual withdrawal plan before making any changes. Just under half consulted a doctor before starting their attempt, and a third reported temporarily using AMs to cope during the withdrawal process.

Larsen-Barr (2016) concluded that people commonly use non-medication physical health approaches such as nutrition and exercise alongside additional psycho-social approaches such as therapy, peer support and their own internal coping strategies. This is while taking AMs, during withdrawal, and following discontinuation.

Larsen-Barr argued that:

- prescribing clinicians need to consider the person as a whole and in context when first prescribing, and emphasise psycho-social factors and QOL during medication reviews
- all clinicians involved in the wider treatment system need better understanding of their clients' subjective experiences of taking AMs
- people should have the choice to take AMs or not take them, the choice to change their minds later, and all the information required to make choices that are safe and have the best possible outcome for their quality of life.

This study suggests it is warranted and necessary for treatment systems to support people to discontinue AMs if they choose and to make that choice safely and with the least amount of distress possible. The results of the interviews suggest that such support should extend to dimensions of understanding self and identifying needs, strategies for coping and building resilience, strengthening social connections, acceptance of distress, and developing persistence and curiosity (Larsen-Barr, 2016, p.143).

An Australian first-person survey of antipsychotic discontinuation involving 98 respondents highlighted "the individuality of every participant's recovery journey and the need to avoid generalising about the role of antipsychotics in care" (Salomon & Hamilton, 2013, p.160).

One respondent described her reasons for stopping medication as follows:

"Rather than addressing the behavioural, emotional and psychological issues that were affecting me, I was just drugged up. The medications took away my ability to function, without actually helping my symptoms."

Participants wrote about negative communication with clinicians being influential in their decision to discontinue. One such experience was that of feeling unheard or invalidated.

"It is pointless having a discussion with a psychiatrist about stopping medication. If you are sick – you need medication. If you are well – see the medication is working! If you get sick again – you need more medication. It's like a seamless Escher drawing, as the situation changes so do the reasons why you should be taking medication. All roads lead to Rx!"

Inadequate information about side effects also contributed to discontinuation.

"He did not explain anything about the side effects, just said take this and come back in a month ... Within three months I had gained 2 stone and gone from size 8 to size 16. I went back to the GP who just shrugged his shoulders as if it wasn't a problem. I weaned myself off them over a few weeks."

A number of respondents reported feeling the same or better initially, followed by serious decline.

"At first, I was ok – didn't really feel any different but then, when I had stopped completely, I started having suicide and self-harm urges, I had images of harming myself and others that

wouldn't go away. I was depressed, I had auditory hallucination, couldn't sleep, couldn't eat, spent the majority of my time laying on the lounge staring at the TV."

The majority of respondents reported that they eventually recommenced taking medication. This was due to a range of issues including difficulties with withdrawal symptoms, relapse, rehospitisation, involuntary treatment, relationship breakdown, and loss of employment. Many people in this group reflected on the knowledge they had gained through the process of discontinuation, and factors influencing their decision to recommence taking the medication.

"I have come to the realisation that I need an antipsychotic drug; however, the choice is mine as to which one I am going to use. Being on the wrong drug has left me with years of being lost and not wholly committed to society."

Of the 21 participants who remained antipsychotic free at the time they completed the survey, a major theme described was that of experiencing a renewed sense of life and increasing role engagement.

"It was like waking up. It was like regaining self. It was like finding my sexuality again. It was like a fog lifting."

Salomon and Hamilton (2013) noted in their conclusions that most of the respondents had made the decision to discontinue their medication without discussing this with their clinicians. Reasons given for discontinuing in isolation were mainly to do with their negative perceptions of the clinician, and the apparent lack of good communication channels. While for most participants, the experience of unsupported discontinuation had serious and even life-threatening implications, a small number of people remained antipsychotic-free for a prolonged period of time. These findings argue for clinicians supporting people in trying different strategies, including antipsychotic discontinuation, and maintaining open channels of communication with their clients.

In their small qualitative study of 35 people with schizophrenia and bipolar disorders, Gibson and colleagues (2013) found that less than half of participants described themselves as taking their medication as prescribed, and 29 per cent were both 'non-adherent' and satisfied with being so. Satisfaction with their medication was positively correlated with the emotional and professional support they received, and participants said they wanted more information about their medications, better access to psychological therapies and stability in their relationships with health professionals.

Research initiatives that put the experience of patients at the centre, and seek to understand their medication use are now underway and some results have been published, as discussed in *Mad in America*.⁶ One of these is a New Zealand study of the experience of people using antidepressants (Gibson, Cartwright & Read, 2016). An open-ended survey question ("In my life antidepressants have been ...") was answered by 1,745 people.

⁶ Retrieved on 7 June 2016 from <http://www.madinamerica.com/2016/please-join-groundbreaking-research-psychiatric-medications>.

Considerable diversity was noted in participants' responses, with 54 per cent being positive, 16 per cent negative, and 28 per cent mixed in their experiences with antidepressants. Those with positive experiences were likely to see antidepressants as a necessary treatment for a medical illness. Those with negative experiences described antidepressants as being ineffective, with unpleasant side effects.

Those with mixed experience weighed up the unpleasant side effects against the benefits, felt calmer but less like themselves, had struggled to find the right drug or dosage for them, and felt stuck with continuing on antidepressants when they wished to stop.

Withdrawal from the medication was often experienced as a problem, with comments such as:

"I have been on them so long that I have no idea what it would be like not to be on them..."

"They helped me get back on my feet when I was facing a difficult time. However, I was never told when to go off them and...have not heard from the doctor who prescribed them to me in years."

Withdrawal effects such as severe shakes, suicidal thoughts, hallucinations and mood swings were identified by individuals who had tried to withdraw from their medication. The authors raised concerns about withdrawal effects and the apparent lack of support from some health providers in managing the process.

What does recent evidence tell us about priorities for interventions at systems, health services and individual levels?

Systems level interventions

International: WHO Mental Health Action Plan 2013-2020

The WHO provides guidance on mental health which sets a global strategic context for member states. The *WHO Mental Health Action Plan 2013-2020* (WHO, 2013) states that determinants of mental health and mental disorders includes both individual attributes and “social, cultural, economic, political and environmental factors such as national policies, social protection, living standards, working conditions, and community social supports” (WHO, 2013, p.7).

The plan acknowledges that people with mental disorders experience disproportionately higher rates of disability and mortality. Taken together, mental, neurological and substance use disorders exact a high toll, accounting for 13 per cent of the total global burden of disease in the year 2004 (WHO, 2013).

The vision of the action plan is a world in which mental health is valued, promoted and protected. Mental disorders are prevented and persons affected by these disorders are able to exercise the full range of human rights. They can access high quality, culturally-appropriate health and social care in a timely way to promote recovery, attain the highest possible level of health, and participate fully in society and at work, free from stigmatisation and discrimination. Its overall goal is to promote mental well-being, prevent mental disorders, provide care, enhance recovery, promote human rights and reduce the mortality, morbidity and disability for persons with mental disorders.

The action plan relies on six cross-cutting principles and approaches.

- **Universal health coverage:** Regardless of age, sex, socioeconomic status, race, ethnicity or sexual orientation, and following the principle of equity, persons with mental disorders should be able to access, without the risk of impoverishing themselves, essential health and social services that enable them to achieve recovery and the highest attainable standard of health.
- **Human rights:** Mental health strategies, actions and interventions for treatment, prevention and promotion must be compliant with the *Convention on the Rights of Persons with Disabilities* and other international and regional human rights instruments.
- **Evidence-based practice:** Mental health strategies and interventions for treatment, prevention and promotion need to be based on scientific evidence and/or best practice, taking cultural considerations into account.

- **Life-course approach:** Policies, plans and services for mental health need to take account of health and social needs at all stages of the life course, including infancy, childhood, adolescence, adulthood and older age.
- **Multi-sectoral approach:** A comprehensive and co-ordinated response for mental health requires partnership with multiple public sectors such as health, education, employment, judicial, housing, social and other relevant sectors as well as the private sector, as appropriate to the country situation.
- **Empowerment of persons with mental disorders and psychosocial disabilities:** Persons with mental disorders and psychosocial disabilities should be empowered and involved in mental health advocacy, policy, planning, legislation, service provision, monitoring, research and evaluation (WHO, 2013, p.33).

WHO policy priorities

A comprehensive approach to reducing excess mortality in people with severe mental disorders was developed in collaboration with the WHO by Liu and colleagues (2017). They suggest that reducing the life expectancy gap in those with severe mental disorders (SMD) would be a major step towards general population goals of achieving universal healthcare coverage, effective treatment of non-communicable diseases, smoking cessation and suicide reduction.

Liu and colleagues argue that international policies need to further promote the rights of persons with SMD to attain the highest level of health possible and full participation in society and at work.

At a national level, policies need to facilitate the delivery and integration of effective interventions into the health system and communities to improve mental health. In addition to specific programmes targeting services for individuals and populations, national policies should enable and provide sufficient resources for routine data collection of key indicators of excess mortality in persons with SMD at local facilities, national and regional databases. Health information and surveillance systems will be needed to monitor mortality records and trends (Liu et al., 2017).

New Zealand mental health and addiction policy

Since the 2014 evidence review, the national policy framework for mental health and addiction in New Zealand has been undergoing further development, although *Rising to the Challenge: The mental health and addiction service development plan 2012-2017* (Ministry of Health, 2012) continues to be the key guiding document. The Ministry recently finalised the new *Commissioning Framework for Mental Health and Addiction* (Ministry of Health, 2015b), which will support the direction set for services in *Rising to the Challenge*, and take into account the social determinants of health.

More recently, the Ministry has been consulting on primary mental health service delivery, and specifically on *Fit for the Future - a systems approach*, described as “a new approach to addressing

moderate mental health issues (longer term)”⁷. The intention is to initially build on the evidence base for primary mental health by further developing existing models of care and trialling them.

Very little research evidence on more targeted policy interventions was found in this update that can add to the material already analysed in the original review. However there has been progress in raising the profile of Equally Well objectives through specific mention in DHB annual plans and other policy documents, such as the national diabetes strategy *Living with Diabetes* (Ministry of Health, 2015c).

There have also been developments in line with national policy directions, particularly in the area of shared care and collaboration between primary and secondary care services. These developments are part of ongoing change within the New Zealand health sector and support the aims of the Equally Well collaborative. Research on these models is summarised in the following section on healthcare services.

Employment policy

One policy area of particular relevance to this review is that of employment. This is important because strategies and interventions that improve access to employment and employment assistance for people with mental health problems have been studied for more than 30 years (Marshall et al., 2014; Drake & Bond, 2017) with positive results.

In recognition that mental ill-health is responsible for between one-third and one-half of all long-term sickness and disability among the working-age population in OECD countries, the OECD (2015b) has developed policy in this area.

There are three central components to their mental health and work policy framework.

- The first is a shift in **when** to intervene. Mental ill-health is often identified too late. Support and intervention at a time when people have been out of work for several years is often ineffective. Policy should focus on prevention, early identification and early action.
- The second is a shift in **how** to intervene or what to do. Different institutions, especially in the health and employment areas, often operate in isolation in pursuit of their own objectives. And if there is such a dearth of integrated approaches, it is not least because incentives, obligations and procedures are scattered and contradictory.
- The third is a shift in **who** needs to intervene. Currently, the positive influence that front-line actors like teachers, managers, GPs and employment counsellors can have on education and

⁷ Excerpt from a Ministry of Health consultation slide of August 2016

labour market outcomes of people with mental ill-health is often poorly harnessed. These mainstream actors are best placed to help people early.⁸

While noting that there is limited data, knowledge, and rigorous evaluation of new policies and programmes in this area, the OECD report argues that policy makers need to act now. At the same time they need to invest more in better evaluation of policies and programmes, especially those involving earlier, better integrated intervention which will yield longer-term returns on investment. Action is identified across a range of policy arenas:

- education policy to achieve optimal outcomes and robust school-to-work transitions
- workplace policies to ensure high labour productivity and job retention
- benefit policies to promote a fast, sustainable return to work
- health policies to deliver accessible treatment, which supports employment as a desirable outcome.

The OECD (2015b) notes that it is widely accepted that integrated mental health and employment support is important for people with severe mental ill-health. They also argue that work plays an important role in the recovery of people with less severe and common mental health problems. A stronger employment focus can be developed and achieved in the mental health system as follows:

- add employment-related outcomes to the quality assurance and outcomes frameworks of the health system
- incorporate employment support into the treatment plan for people with common mental health complaints
- develop employment support programmes for people with mental health conditions and addiction (OECD, 2015a).

Polypharmacy

Psychiatric polypharmacy is commonly described as the use of two or more psychiatric medications in the same patient. One international review study estimated that the prevalence of polypharmacy in psychiatry varies between 13 and 90 per cent, and that the practice is increasing rapidly (Kukreja, Kalra, Shah & Shrivastava, 2013). A New Zealand study of antipsychotic prescribing in people discharged from inpatient units with a diagnosis of schizophrenia found a high rate (33.7 per cent) of multiple antipsychotic prescribing in the three districts studied, Waikato, Tairāwhiti and Lakes, between 2009 and 2011 (Dey, Menkes, Obertova, Chaudhuri & Mellsop, 2016). The authors noted that this was despite guidelines recommending monotherapy.

An Australian study found that two-thirds of people being treated for psychosis were subject to polypharmacy, with one-quarter using a combination of more than one antipsychotic. The authors

⁸ Retrieved on 8 January, 2017, from http://www.keepeek.com/Digital-Asset-Management/oecd/employment/fit-mind-fit-job_9789264228283-en#page12

noted that “irrespective of the rationale, combining atypical and typical psychotics magnified the risk of experiencing side effects in almost all categories” (Waterreus et al., 2012, p.10).

The main reason for prescribing more than one medication appears to relate to clinical assessment – the health professional’s belief that a single medication was ineffective in treating psychiatric symptoms. Other reasons cited included the targeting of specific symptoms, treating co-morbid illnesses, addressing symptoms that do not improve, and addressing side-effects from a primary drug.

However, findings brought together by Baxter et al. (2016), demonstrated that polypharmacy increases mortality risk. These findings support the conclusions drawn by Weinmann and colleagues (2009, p.10), that “therapists should make considerable efforts to find the lowest effective dose, to reduce polypharmacy and to implement effective psychosocial treatments which can help reduce distress levels and relapse rates and improve functional recovery”.

Kukreja and colleagues (2013) cited many examples of good practice guidance which included keeping the drug regimen simple, periodic review of pharmacotherapy, patient engagement and assessment of physical health. This advice is consistent with New Zealand and international clinical guidelines.

The RANZCP guidelines on schizophrenia (Galletly et al., 2016) state:

The concurrent use of two or more antipsychotics for people with treatment-resistant or refractory schizophrenia is common practice, despite limited evidence to support this practice. Compared with antipsychotic monotherapy, combined antipsychotic treatment has been associated with an increased side-effect burden, high-dose prescribing, increased hospitalisation rates and length of stay, higher treatment costs and increased mortality (Galletly et al., 2016, p.433).

The Royal New Zealand College of General Practitioners released a policy brief on problematic polypharmacy in May 2016⁹. The brief notes that “problematic polypharmacy increases the risk of adverse drug events, which contribute to ill health, disability, hospitalisation and death”. Described as a particularly concerning issue among the elderly, polypharmacy should be treated cautiously, and clear practical guidance is provided on how to reduce potential risk to patients.

⁹ Retrieved on 12 June from <https://www.rnzcgp.org.nz/policy-brief/>

Healthcare service delivery interventions

Introduction

In recent years, a great deal has been published on the impact and management of mental health problems, and their associations with physical health. This section covers a wide range of material, including interventions and treatments delivered in healthcare settings.

International research supports the need for better prevention, identification and care of chronic medical conditions among people with mental health conditions and addiction, including the promotion of healthy behaviours, early diagnosis and co-ordinated management, and better integration of care between mental health and primary care services. “People with mental disorders often do not receive preventive services...and often receive a lower quality of care for medical conditions” (Walker et al., 2015, p.340).

One meta-review of interventions for reducing excess mortality due to chronic disease in people with SMI (Baxter et al., 2016) is of particular importance to this report, as it provides a good summary of recent research on interventions. Baxter and colleagues (2016) focused on good quality studies where mortality or physical health parameters were reported as a primary outcome. Secondary physiological outcomes of chronic disease such as glycaemic control and weight gain were included, but studies that reported only on behavioural change measures were not. The findings from this study have been incorporated throughout this report.

The experience of mental health service users

It could be argued that a better understanding of the experience, perspectives and expectations of people with mental health conditions and addiction is critical to improving healthcare services, yet we found few published studies that provide a voice for those people who are most impacted by the quality of both mental and physical healthcare they receive.

Quality of life

In a New Zealand study, the experience of adult mental health service users in relation to health-related quality of life, was compared with a representative cross-section of the population (Wheeler et al., 2015). A survey of 404 mental health service users in Auckland found a lower health quality of life (HQoL) than New Zealand Health Survey respondents with comparable socio-demographic characteristics. The study concluded that “being female, younger than 25 years, obese or overweight, and of New Zealand European/Other ethnicity were associated with poorer functioning on multiple HQoL domains” (Wheeler et al, 2015, p.123).

Experience of physical healthcare services

A review of participative mental health consumer research for improving physical healthcare (Happell et al., 2016), found 57 peer-reviewed studies where some form of consumer participation was reported. Of these, two from the US and two from Canada met the inclusion criteria, all published in 2015. The findings of Happell and colleagues are primarily of relevance to their countries of origin, and have not been summarised in this report; however, they do underline the value of taking this approach in research investigating systemic and other barriers to physical healthcare in New Zealand.

Of relevance to this review, an international systematic review and qualitative meta-synthesis of 19 studies evaluated patient experience of multiple mental and physical health problems (Coventry et al., 2015). The aim was to review and synthesise findings which could identify the components and motivation for successful self-management.

A predominant theme across these studies was the bodily and emotional impact of multimorbidity. The authors argued that:

Multimorbidity is better characterised as an encounter with complexity, dealing as it does with the impact of illness on both bodily and emotional health and attendant social consequences...often experienced as a complex state oscillating between existing (getting through the day) and non-existence (running down time on a life) in '...a place where they send you to die really' (Coventry et al., 2015, p.6).

'Complexity' included the management of physical pain through medicines. A common theme was a reluctance to take medication to manage the emotional consequences of multimorbidity, with a commonly expressed confidence in alternative therapies and strategies to control mood. Social strategies included co-opting family members, helping others and spiritual activities such as prayer.

The authors concluded that:

A desire to preserve self-identity and reclaim a future were critical drivers of successful self-management, signalling a place for interventions that promote agency and self-determination, not least in areas of deprivation where social and economic resources are scarce and the effects of mental and physical multimorbidity are experienced in their most acute form (Coventry et al., 2015, p.10).

Expectations of mental health services

A qualitative study of 40 Australian service users' experience of physical healthcare (Young et al., 2017) posed the question 'What do patients experience and expect of mental health services in relation to their physical health?' Nearly all participants relied heavily on their mental health service case manager for physical healthcare. Most said they would contact a GP for a physical health problem if it was sufficiently severe, but none reported seeking preventative care.

Few participants regarded themselves as healthy, and problematic side-effects of medication were commonly described, alongside disparaging comments about their bodies, and resignation or anger about this.

“I’m so disappointed with being obese.”

“Why should I have to go to a dietician to fix up what the doctors have done to me?”

Most participants spoke of concern about their physical inactivity and fitness, and described themselves as smokers. Several people connected their lack of interest in physical health to their mental state.

“When you’re in a fairly poor mental state, you’re not necessarily all that proactive in terms of asking about things that you perhaps think are not that related...”

Some people with chronic physical health problems reported having thorough check-ups and support from their case manager to access specialist services. Others, however, reported lack of support for physical health problems.

“I’ve told them (about the side effects of medication) and they won’t do anything about it. They don’t offer any advice.”

For some, this led to self-doubt about their own ability to communicate effectively. However, most participants were satisfied overall with their level of support, and several commended staff for their help in managing weight and improving fitness.

In response to the question ‘What *should* [mental health] services do in relation to physical health?’, there was consensus among participants that services ought to proactively manage the side effects of medication, but opinions on other activities varied. While some felt that they were there for mental, not physical health problems, others spoke of the interconnectedness of physical and mental health and valued support from staff for both.

“You can’t compartmentalise a person. How you’re feeling physically affects your mental health and vice versa. A more holistic approach is going to help people’s mental health a hell of a lot more rather than just compartmentalisation.”

Monitoring ‘to make sure we’re healthy’ was commonly considered a minimum requirement.

The majority recalled some communication about physical health from their clinician – usually being asked about sleep, diet, and alcohol use. They recalled having blood pressure, temperature and weight monitored, but with varying frequency. However, they were uncertain about the reasons for these assessments and few recalled having advice or action instigated as a result.

Several people said that services had a particular responsibility to attend to physical healthcare needs when mental health issues compromised a person’s own capacity for self-care. This was particularly the case when a person was hospitalised – that inpatient wards should be health-promoting environments, providing education sessions, healthy food and enabling exercise.

Young and colleagues (2017) found that people living with mental health problems do care about their physical health, but that many people had “come to accept a level of care that falls well below the expected standards”. They concluded that “mental health services and clinicians, charged with working to enable people affected by SMI to live meaningful, contributing lives have a special responsibility to raise expectations and standards of care and reduce health inequality” (Young et al., 2017, p.8).

Access to primary care

Another Australian study involving 31 consumer participants (Ewart et al., 2016) aimed to enhance understanding of the experience of physical healthcare from a consumer perspective.

Overall, participant experience with physical healthcare providers was primarily negative.

In summary, there was scarcity of physical healthcare, characterized by physical health problems and provider non-responsiveness to those problems. For consumers, scarcity led to disempowerment that included the undermining of consumer self-determination, a sense of nowhere to turn to, and over time, worsening physical illness and worsening mental illness that could, and did, translate into physical health crises.

In response, many consumers adopted what may be described as tenuous empowerment, wherein survival strategies were developed and instigated despite ongoing negative interactions with service providers. ...participants were hopeful of better quality healthcare, including respectful, holistic and trust-building partnerships with providers. ...This theme will be described as questionable hope” (Ewart et al., 2016, p.3).

These findings are troubling, even taking into account that the study was undertaken in one small jurisdiction in Australia and with a small sample of service users. Major systemic problems were raised about the interface between mental and physical health, resulting in major difficulties in accessing minimal standard physical healthcare. Many had very negative experiences of help-seeking, such as their physical health concerns being dismissed.

“I reached a point where I was like, there is no one else looking out for me right now, except me.”

There were numerous examples of having physical health symptoms disregarded, leading to the person not seeking further physical healthcare. Access to physical healthcare was often only provided when the situation reached crisis point.

“Reaching a crisis point [laughs] that’s how it works. It works backwards. You go to the crisis, and then you get the help. And you don’t get the help if you present without a crisis.”

Many survival strategies were developed to access services from a seemingly impenetrable system. Some had many tactics for getting heard, such as using Google to find the right language to use with doctors. Some just didn’t tell the GP that they had mental health problems. Some moved from one GP to another until they found one who would listen, and then hang on to them. One person made a

formal complaint about a GP, who was investigated. Some revised their approach to accommodate limited GP consultation timeframes.

They've got this 10-minute window where they can see you in bulk-billing capacity, therefore...you've got to condense everything down into that period of time, and then they've got to write down whatever, and give you a script, and send you on your merry way. But having a doctor actually sit and listen to you and say, 'Okay. Well, all right I'll check your blood pressure,' or, 'I'll check your stomach,' and whatever parts of your body that are causing problems, and actually be more interested in your actual health. So it's taken me a long time to have the courage to say, 'Well, hang on a minute. I need help with this. Can you refer me to these other services?' So having...the knowledge of what's happening, and being able to convey that to the medical professionals, and say, 'Well, this is what's helping, and this is what's not helping.' So that's been a big challenge for me to do. I've had to learn that for myself.

Participants felt that the way forward was improved services as part of a more supportive community where they would be included and respected rather than stigmatised.

Yeah, that focus, so the general community goes, 'Oh, they're living with that. They're decent people.' Okay. And it's changing back to that community focus. We're all part of the community, we all live, eat, breathe, you know, the whole kit and caboodle, don't ostracise, reintegrate, which is what [other participant] was saying. That is what I think we need to become in the future.

This research demonstrates that service users are concerned about physical health problems, and many had to go to extraordinary lengths to have their concerns taken seriously.

Ewart and colleagues conclude that major changes are needed in how physical healthcare providers relate to consumers. The disparity in access needs to be addressed through improved provider awareness, skill development and related practices. The inclusion of nurses specialized in mental and physical healthcare integration was suggested, in collaborative care arrangements (Ewart et al., 2016).

WHO intervention framework for improving physical health

In their multi-level intervention framework developed in collaboration with the WHO, Liu and colleagues note that “truly tested interventions in this area remain limited, and strategies for implementation and scaling up of programmes with a strong evidence base are scarce” (Liu et al., 2017, p.30). Their framework incorporates individual, health system, community and policy-level interventions, based on a multi-level model of risk factors for excess mortality in each of these areas. The intervention model is summarised in *Figure 2*.

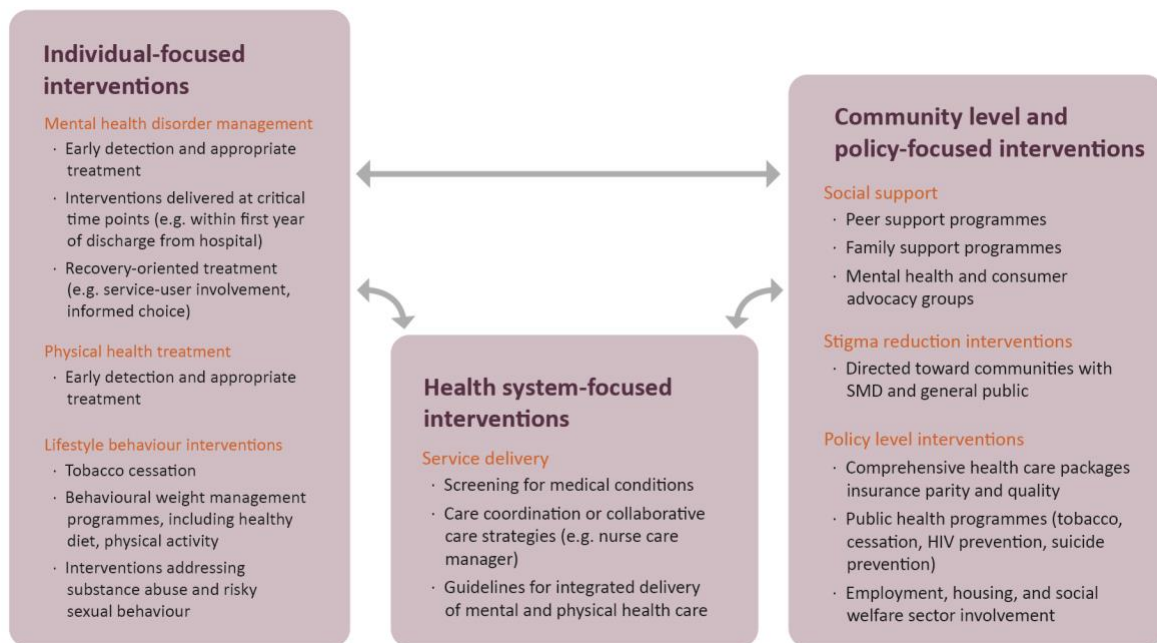


Figure 2: Multilevel model of interventions to reduce excess mortality in persons with severe mental disorders (Liu et al., 2017, p.32)

Individual-focused interventions attempt to manage the person’s mental health problems and change behaviour, particularly by increasing physical activity, smoking cessation (addiction treatment), and supporting healthy weight management through good nutrition. In practice, social and peer support is often a component of such interventions, although the model describes social support as a community-level intervention. Early detection and appropriate treatment is fundamental to managing physical health impacts, particularly in the administration of medication.

Health system-focused interventions include screening, monitoring and treatment of physical health problems associated with medication, co-ordination of care across services, and clinical guidance.

Community-level and policy-focused interventions in this model include social support, activities that address stigma, and policy interventions such as the involvement of employment, housing and social welfare agencies.

The following priorities are identified for clinical practice:

- co-ordination of outpatient support is needed in the first year after discharge from psychiatric services
- people with SMD should have providers responsible for both mental and physical health, and where more than one provider is involved, good communication between them is essential
- people with SMD should be offered the same health screenings as the general population – especially for cardiovascular disease and cancer

- health providers should actively support people to quit smoking
- lifestyle interventions should be implemented, tailored to need and modified to account for motivational and cognitive challenges, including social support strategies and environmental supports (Liu et al., 2017).

Clinical guidelines

Clinical guidelines on the treatment of mental health problems that have been published since 2014, reflect international concern about the need to minimise the physical health impact of serious mental health problems and the medications used for treating them. For example, the National Institute for Health and Care Excellence (NICE) guideline on the treatment and management of psychosis and schizophrenia in adults has included new sections on physical health since the guideline was last updated in March 2014. Guidance includes offering healthy eating and physical activity programmes, providing support with weight management and smoking cessation, and routine monitoring for cardiovascular and metabolic disease.

There are also new sections on monitoring physical health in primary care (NICE 2014). The following excerpt is from the updated online version¹⁰.

1.5.3.2 GPs and other primary healthcare professionals should monitor the physical health of people with psychosis or schizophrenia when responsibility for monitoring is transferred from secondary care, and then at least annually. The health check should be comprehensive, focusing on physical health problems that are common in people with psychosis and schizophrenia. Include all the checks recommended in 1.3.6.1 and refer to relevant NICE guidance on monitoring for cardiovascular disease, diabetes, obesity and respiratory disease. A copy of the results should be sent to the care co-ordinator and psychiatrist, and put in the secondary care notes.

1.5.3.3 Identify people with psychosis or schizophrenia who have high blood pressure, have abnormal lipid levels, are obese or at risk of obesity, have diabetes or are at risk of diabetes (as indicated by abnormal blood glucose levels), or are physically inactive, at the earliest opportunity following relevant NICE guidance (see Lipid modification [NICE clinical guideline 67], Preventing type 2 diabetes [NICE public health guidance 38], Obesity [NICE clinical guideline 43], Hypertension [NICE clinical guideline 127], Prevention of cardiovascular disease [NICE public health guidance 25] and Physical activity [NICE public health guidance 44]).

Comprehensive clinical guidelines recently published by the Royal Australian and New Zealand College of Psychiatrists (RANZCP) on the diagnosis and treatment of schizophrenia and related

¹⁰ Retrieved on 20 February 2017 from <https://www.nice.org.uk/guidance/cg178>

disorders (Galletly et al., 2016) and mood disorders (Malhi et al., 2015) are based on extensive evidence reviews and consultation processes in New Zealand and Australia. These guidelines are important to this review because they take into account, and make explicit, the physical health impact of various treatment options. Written primarily for a clinical audience, they reflect the shift in psychiatry towards a recovery paradigm, with greater involvement of both service users and their families. They are referred to throughout this report.

The recovery paradigm

Much has been written, discussed and published in recent years on the recovery paradigm, with its “fundamental emphasis...on hope and empowerment rather than solely on relief from symptoms of illness” and with “potential for positive change in mental health service delivery” (Stratford, Brophy, Beaton & Castle, 2013, p.550). Recognition of the importance of recovery among health professionals is essential to improving both mental and physical health outcomes.

RANZCP guidelines for schizophrenia describe the recovery paradigm as “the guiding principal of contemporary mental health services” and a concept “relevant to all stages of illness, beginning as soon as there is a need for care...” (Galletly et al., 2016, p.424). The stated aim for health professionals is to optimise the person’s recovery of social function through “a respectful, collaborative approach: optimal evidence-based treatment; and consideration of the specific needs of those in adverse circumstances or facing additional challenges” (Galletly et al., 2016, p.441).

RANZCP recommendations on recovery-oriented practice are as follows:

- recovery training should be mandatory for all clinicians working in mental health
- people with mental illness should be treated in an appropriate, caring and respectful environment that promotes a collaborative relationship between the individual and clinicians
- a recovery plan developed in partnership with the person with mental illness should guide mental healthcare
- psychoeducation should be available
- peer specialists should be employed to assist with counselling, support, and psychoeducation for people with schizophrenia, provide advice to clinicians and help plan and audit services
- clinicians and mental health services should work in partnership with the individual, their cares the non-government sector and relevant support organisations (Galletly et al., 2016).

In a study of recovery in relation to medication, Stratford and colleagues (2013, p.550) note that “recovery is not ‘anti’ medication; however, a recovery-oriented position does require the adoption of an enabling and empowering approach to the use of medication. The cornerstone of this is shared decision-making that respects the person’s own lived experience and choice as well as the practitioner’s professional expertise”.

The authors suggest that clinicians can support recovery and the use of medications by:

- detailing the impact of medication from the perspectives of everyone involved, noting the positive aspects and strategies that are successful in helping to manage side effects
- noting the individual's capacity to manage medication and what that might mean for their health and wellbeing
- being aware of the constant need for collaboration and negotiation that is based on shared understandings about how the consumer and clinician will make decisions and how knowledge will be built together
- using decision aids that have been found to enhance the person's ability to weigh up the pros and cons of their options for treatment (Stratford et al., 2013, p.552).

Rethink, a national mental health organisation in the UK, has published material on recovery over many years. *Table 3* is part of their recovery framework¹¹.

Table 3: Differences between traditional and recovery-oriented services

Traditional approach	Recovery approach
Values and power arrangements	
(Apparently) value-free	Value-centred
Professional accountability	Personal responsibility
Control oriented	Oriented to choice
Power over people	Awakens people's power
Basic concepts	
Scientific	Humanistic
Pathography	Biography
Psychopathology	Distressing experience
Diagnosis	Personal meaning
Treatment	Growth and recovery
Staff and patients	Experts by training and experts by experience
Knowledge base	
Randomised controlled trials	Guiding narratives
Systematic reviews	Modelled on role models
De-contextualised	Within a social context
Working practices	
Description	Understanding
Focus on the disorder	Focus on the person

¹¹ Retrieved on 21 September 2017, from https://www.rethink.org/media/.../100_ways_to_support_recovery_2nd_edition.pdf

Traditional approach	Recovery approach
Illness-based	Strengths-based
Based on reducing adverse events	Based on hopes and dreams
Individual adapts to the programme	Provider adapts to the individual
Rewards passivity and compliance	Fosters empowerment
Expert care co-ordinators	Self-management
Goals of the service	
Anti-disease	Pro-health
Bringing under control	Self-control
Compliance	Choice
Return to normal	Transformation

(Slade, 2009, p.6)

Health screening and monitoring

As reported elsewhere in this review, it is widely acknowledged that reduced access to routine screening, identification of risk and monitoring of common health problems (primarily cancer and cardiovascular disease), contributes to excess mortality and relatively poor health in people with serious mental health conditions and addiction. For mental health service users, particularly those people on antipsychotic medication, routine metabolic screening and monitoring is essential. However, it is clear that many people are not receiving this on a regular basis.

There also seems to be a lack of health outcome data on metabolic screening of people with mental health problems. Only one Cochrane review of screening and monitoring (Tosh, Clifton, Xia & White, 2015) met the criteria of Baxter et al. (2016) in their meta-review of health interventions to reduce excess mortality, and this was not a high-scoring review. A causal link had not been established indicating that better access for people with SMI to screening, preventive interventions and improved physical healthcare would improve health outcomes for this group.

Having looked at studies in the review by Tosh et al. (2015), Baxter and colleagues suggested that “there are inequities in terms of diagnostic timeliness, use of monitoring and provision of physical healthcare interventions” and that “despite their increased exposure to chronic disease risk factors, many people with SMI have limited access to general healthcare with less opportunity for metabolic risk factor screening and prevention” (Baxter et al., 2016, p.326).

It is not clear why this is the case but the problem is systemic. A national survey of Australian psychiatrists’ attitudes and reported practice regarding screening for the metabolic syndrome found that routine screening systems and practice was inadequate (Laugharne, Waterreus, Castle & Dragovic, 2015). Fewer than half of the 955 respondents routinely checked weight, fasting glucose or lipids in their patients on antipsychotics, and under 30 per cent checked blood pressure. More than

three-quarters of respondents reported that there was no reliable system in place to remind them when to monitor.

Another Australian study investigated nurse compliance with metabolic screening policies over a 12-month period (Ward, Wynaden & Heslop, 2017) and found that the translation of guidelines and policy directives to clinical practice by nurses was very poor in this area.

While there is no comparable published research about metabolic screening practices in New Zealand, it's likely that the situation is similar. DHBs have been developing their own clinical pathways for this area¹², but until recently there has been limited information about progress around the country. However, during 2016, Stavely and colleagues (2017) investigated metabolic screening policies in DHBs and it was found that only 75 per cent of DHBs have some form of policy, but with wide variation in terms of format and quality (NGOs, PHOs and general practice were not included in the study). The lack of adequate policies is likely to contribute to low levels of metabolic monitoring in New Zealanders being prescribed antipsychotic medication as part of their treatment.

Clinical guidelines on managing weight gain, metabolic disturbances and cardiovascular risk in people with mental health problems have been published recently in the UK (Cooper et al., 2016). In monitoring for physical health risk factors the authors suggest that identified measurements should be assessed before starting an antipsychotic, or as soon as possible afterwards, and then at the intervals indicated below.

- BMI should be used to monitor whether an individual is becoming overweight or obese. This requires frequent measurement of weight during the early stages of treatment: ideally weekly for the first four to six weeks and then every two to four weeks up to 12 weeks, but, as a minimum, once every four weeks for the first 12 weeks of treatment. Weight (and BMI) should then be assessed at six months and eight months, then at least annually thereafter, unless the clinical situation demands more frequent assessment.
- In the long-term blood glucose control should be monitored using glycated haemoglobin (HbA1c). However, as HbA1c provides a measure of longer-term control, in the early weeks of treatment, fasting or random plasma glucose may provide a more appropriate measure of glucose control. Glucose control should be further assessed at 12 weeks, six months and then annually.
- The lipid profile should be assessed at 12 weeks, six months and then annually.
- Blood pressure should be monitored at 12 weeks, six months and annually thereafter.
- If there is a change in antipsychotic medication then, where clinically relevant, it is appropriate to re-visit all of the steps outlined above.
- Tobacco smoking and alcohol use should be enquired about at all opportunities.

¹² An example from Waitemata DHB can be found at <https://www.tepou.co.nz/news/-metabolic-screening-across-mental-health-and-primary-care-services/853>.

- It is important to take ethnicity into account when evaluating BMI results.

Guidance is provided on two recommended interventions for overweight and obesity – antipsychotic switching and adjunctive metformin.

Shared care between primary, community and secondary care services

Primary healthcare providers play an essential role in improving physical health outcomes among people with mental health conditions and addiction, including prevention, early intervention and treatment. However, it has been suggested that “very little research has examined this issue from the perspective of those using mental health services” (Cunningham et al., 2014, p.39). Qualitative studies discussed elsewhere in this report provide insights into these perspectives (Coventry et al., 2015; Ewart et al., 2016; Young et al., 2017).

The perspectives of primary care clinicians who are managing people with complex needs, including mental health problems, have also been studied in recent years. One New Zealand study of clinical decision making and primary healthcare delivery for multimorbidity (where a person has two or more chronic conditions), provides a local context for considering the evidence on successful international shared care interventions (Stokes et al., 2017). The study reported on semi-structured interviews with 12 GPs and four primary care nurses (PCNs) in Otago, a part of the country where the national *Care Plus* initiative¹³ was being complemented by regional health service initiatives, aiming to improve care co-ordination and integration between primary and secondary care.

GP respondents described:

- a level of complexity that created problems with the time available, generally 15 minutes for a consultation
- problems with clinical guidelines which are generally developed for single conditions
- using strategies to address multiple problems in a short timeframe, such as satisficing (settling for chronic disease management that was satisfactory and sufficient, given the particular circumstances of that patient) and relational continuity of care (an ongoing therapeutic relationship which addressed problems sequentially over time)
- the mixed capitation/co-payment model as a barrier to delivering care to people with multimorbidity
- the flexible use of *Care Plus* funding to (a) subsidise GP visits only, or (b) visits with GP and PCN. The need for patient co-payment was identified as a barrier to the latter strategy

¹³ Care Plus was introduced by the Ministry of Health in 2004, as an additional capitation-based funding stream for primary care, which aims to “improve chronic care management, reduce inequalities, improve primary care teamwork and reduce the cost of services for high-need patients”. Retrieved on 27 June 2017 from <http://www.health.govt.nz/our-work/primary-health-care/primary-health-care-subsidies-and-services/care-plus>.

- a fragmentation of healthcare provision, both within general practice and across the primary/secondary care interface. The latter was described as systematic and pervasive, caused by a disconnect between primary and secondary care, including a lack of shared information systems.

“The trouble is at the moment there’s no viable model about sharing which would allow us to proceed and obviously because we’ve got two different kinds of systems and not really kind of integrated so it’s a difficult one. ...Specialist medicine doesn’t appreciate a shared model of care really.” (GP)

A key finding from this study was that the co-payment funding model in New Zealand primary care services was seen by GPs as a barrier to the delivery of care as it discourages sequential consultations. The problem of cost was only partially addressed by *Care Plus*. Stokes and colleagues (2017) also commented that no independent evaluation of *Care Plus* had been undertaken since it was established in 2004.

Cost is definitely a barrier to care for people on a low income. One national New Zealand survey found that 15.5 per cent of respondents had put off seeing their doctor at least once in the previous 12 months because of the cost, and those with more than two co-existing health problems were even more likely to defer visits to the doctor (Jatrana & Crampton, 2009).

In recognition of problems of access, some DHBs have begun to address cost as a barrier to mental health service users through fully funding a certain number of primary care visits per year for mental health and addiction service users (see *Appendix A*).

Features of successful shared care

Integrated care in mental health refers to the many models of care that connect primary care with mental health and addiction services. These range from tightly integrated, on-site care teams providing comprehensive services to people, through to co-located and co-ordinated care services which may involve collaboration with other social services and community agencies and professionals. A person-centred approach to delivering services is common across the various models (Grazier, Smiley & Bondalapati, 2016).

There is a great deal of good international evidence about what elements are likely to be most effective for meeting the needs of people with mental health conditions and addiction in primary care. Some of the more recent studies focusing on improving physical health have been summarised below.

Grazier and colleagues’ systematic review (2016) studied the key factors and common themes in successful models. Common features of successful integration models included:

- prioritised underserved vulnerable populations (including homeless families and individuals, veterans and their families, women with HIV, and incarcerated youth)
- extensive community-wide collaboration (unique to each organisation)

- ensuring strong leadership early in the process
- implementing a team-based approach
- including the patient as an active participant
- diversifying funding sources
- implementing data-driven approaches and practices.

Nine factors were identified as important for successful implementation of collaborative care for depression in a US study (Whitehead et al., 2014). These were ranked in importance as follows:

- operating costs not seen as a barrier
- engaged psychiatrist
- primary care provider
- strong care manager
- warm hand-off (face-to-face referrals)
- strong top leadership support
- strong primary care provider champion
- care manager role well-defined and implemented
- care manager on-site and accessible.

Factors correlated with higher patient activation rates were:

- strong leadership support
- well-defined and implemented care manager roles
- a strong primary care physician champion, and an on-site and accessible care manager.

The authors found that remission rates at six months were correlated with an engaged psychiatrist, not seeing operating costs as a barrier to participation, and face-to-face communication between the care manager and primary care physician for new patients (Whitehead et al., 2014).

A rapid review of studies of integrated care in addressing the physical health needs of people with SMI summarised scientific evidence in this area (Rodgers et al., 2016). Rodgers and colleagues used the nine factors at the heart of good integrated care for people with mental health problems, identified by the Mental Health Foundation (UK) in the report of their inquiry, *Crossing Boundaries. Improving integrated care for people with mental health problems* (2013).¹⁴

¹⁴ Retrieved on 28 June, 2017 from <https://www.mentalhealth.org.uk/publication-download/crossing-boundaries>

These factors are as follows:

- information sharing systems
- shared protocols
- joint funding and commissioning
- colocation of services
- multidisciplinary teams
- liaison services
- navigators
- research
- reduction of stigma.

In their meta-review examining excess mortality due to chronic disease in people with SMI, Baxter and colleagues (2016) use the term integrative community care to describe integrated or collaborative models of community-level care as opposed to intensive case management within secondary care. Clinical trials comparing the two approaches identified no significant differences in relation to mortality, probably due to the short follow-up time of the studies (18 months). However, there appeared to be fewer deaths due to suicide or suspicious circumstances in the integrated models, and the authors discussed other studies that indicate improvements in cardiovascular health among people with SMI who are managed through integrative community care (eg Druss et al., 2010).

Another study cited by Baxter and colleagues followed up people with major depression over nine years and found that when a mental health specialist case manager was allocated to work with the person's GP, this group was 24 per cent less likely to have died, particularly from chronic disease, compared with people receiving usual care (Gallo et al., 2013). However, Baxter and colleagues acknowledge that evidence is not particularly strong in terms of comparing the models, and that short-term research funding does not lend itself to the investigation of health outcomes and particularly mortality.

Care navigators have been found to be effective in helping people access primary care after a psychiatric crisis (Griswold, Homish, Pastore & Leonard, 2010). Care navigators (sometimes called care co-ordinators) may be a nurse, peer, social worker or occupational therapist who help people navigate their way through complex health systems.

A number of multilevel intervention frameworks to address excess mortality in people with SMI have been developed in recent years. One of the most recent (Liu et al., 2017) identifies the following priorities:

- the role of primary care in co-ordinating outpatient support efforts is particularly recommended in the first year after discharge from psychiatric hospitalisation, to reduce suicidal behaviours
- where different providers are responsible for mental health and physical health (eg psychiatrist and primary care physician), good communication and co-ordination is essential between them, so that screening, preventive services and monitoring for antipsychotic side effects (if applicable) are ensured
- people with mental health problems should be offered the same basic health screenings as the general population (eg cardiovascular risk and cancer)
- behavioural interventions, if not already tailored, may require modification to account for motivational and cognitive challenges, and need to include social support strategies and environmental supports (Liu et al., 2017, p.42).

Supported employment

An Australian survey investigating the experiences of people living with psychosis (Morgan et al., 2017), concluded that

Money, social engagement and employment are the most important challenges identified by people with psychotic illnesses themselves. Employment has the potential to help address all three challenges for many of these people, to exert a positive impact on physical and mental health, and to improve access to stable housing (Morgan et al., 2017, p.14).

Supported employment programmes generally employ case workers who work with both employers and mental health service users to facilitate meaningful employment opportunities, and provide ongoing on-the-job support. In New Zealand, these services are mainly provided for mental health and addiction service users by NGOs (Te Pou o te Whakaaro Nui, 2015a).

The economic and social value of providing supported employment for people with mental health problems appears self-evident. The number, consistency, and effect sizes of studies of evidence-based supported employment, also known as Individual Placement and Support (IPS), establish it as the most effective approach available to supporting people with mental health conditions and addiction into competitive employment (Bond, Drake & Becker, 2008; Modini et al., 2016).

There is good evidence that providing individualised support, based on the best available evidence, is the most effective means of assisting those on benefits with mental health conditions to move into employment (Waddell, Burton & Kendall, 2008). A Cochrane Review of supported employment for adults with SMI (Kinoshita et al., 2013) found evidence for significant increases in levels of employment after one-year follow-up. There were two main findings:

- 1) supported employment increases the length and time of people's employment, and

2) people on supported employment find jobs quicker than other approaches for finding employment.

A review of randomised controlled trials studying evidence-based supported employment focused on the IPS approach to supported employment for clients with SMI (Bond et al., 2008). Across the 11 studies, the competitive employment rate was 61 per cent for IPS compared to 23 per cent for controls. About two-thirds of those who obtained competitive employment worked 20 hours or more per week. Among those who obtained a competitive job, IPS participants obtained their first job nearly 10 weeks earlier than controls.

Employment services based on the principles of IPS, are available in mental health and addiction services in some parts of New Zealand (Te Pou o te Whakaaro Nui, 2017).

In recognition of the impact of mental ill-health on employment among the working-age population, the OECD recently developed policy recommendations in this area (OECD, 2015).¹⁵ After investigating the cost benefit of supported employment for people with mental health problems, the OECD concluded that GPs should be offered financial incentives for talking to patients' employers, and that governments should give GPs incentives for building employment support into their practices and, by the same token, make that accountable for a patient's sick leave.

Strategies identified for helping GPs to address work-related issues included:

- change the terms of reference of sickness certification to focus on what people can do rather than what they cannot
- develop illness-specific guidelines for GPs on sickness certification and return-to-work practices and monitor their use
- fund employment specialists to support GPs in their practice.¹⁶

Employment support for people with mental health conditions is available in some primary care settings in New Zealand, with promising evaluation results (Te Pou o te Whakaaro Nui, 2013).

Employment advisors are an essential component of Increasing Access to Psychological Therapies (IAPT) services in the UK, and are recommended as members of 'the optimum primary mental healthcare team' by the Joint Commissioning Panel for Mental Health in the UK.¹⁷

¹⁵ Material retrieved from <http://www.oecd.org/mental-health-and-work-forum/documents/OECD-POLICY-FRAMEWORK.pdf> on 15 December 2016.

¹⁶ OECD (2015) *High-Level Policy Forum on Mental Health and Work Bridging Employment and Health Policies*. The Hague. Retrieved on 15 December 2016 from <http://www.oecd.org/mental-health-and-work-forum/documents/OECD-POLICY-FRAMEWORK.pdf>.

¹⁷ Retrieved from www.icpmh.info on 27 September 2016

Peer support services

The development of services providing peer support for people with mental health problems is generally attributed to the mental health service user movement of the 1970s, but it has its roots in the late 18th century in France (Davidson et al., 2012). The Bicetre Hospital in Paris was governed by a former patient, Jean-Baptiste Pussin, who in 1793 wrote a letter to the chief physician, Philippe Pinel, which stated “As much as possible, all servants are chosen from the category of mental patients. They are at any rate better suited to this demanding work because are usually more gentle, honest, and humane” (Davidson et al., 2012).

Pinel found that Pussin’s strategy of hiring from among recovered patients to be very successful, leading to the hospital being able to “do away with shackles and abuse, and institute what has since come to be called the ‘moral treatment’ era.” The practice has been used periodically since then throughout the history of psychiatry, and in the last 20 years has “virtually exploded around the globe”.

When providing peer support that involves positive self-disclosure, role modelling, and conditional regard, peer staff have...been found to increase participants’ sense of hope, control, and ability to effect changes in their lives; increase their self-care, sense of community belonging, and satisfaction with various life domains; and decrease participants’ level of depression and psychosis (Davidson et al., 2012, p.123).

In 2014/15 there were 88 NGOs reporting peer support activity to the Ministry of Health through PRIMHD (Ministry of Health, 2016b). In 2015 there were nearly 300 people specifically employed in peer support roles in adult mental health and addiction services in New Zealand. Peer-delivered interventions compare well with those delivered by standard psychiatric care on several measures, and there is no evidence of harm associated with the approach (Te Pou o te Whakaaro Nui, 2017).

Some new review studies were found that investigated the impact of peer support on physical health outcomes. The most recent of these provided a good summary of the types of peer support being provided (Cabassa, Camacho, Velez-Grau & Stefancic, 2017). The outcomes measured that are of relevance to Equally Well included self-management and patient activation; improving access to primary care; changing health behaviours such as tobacco smoking, physical activity and nutrition; quality of life; weight management; and metabolic monitoring. Of these, the most promising evidence found supported self-management and peer navigator interventions – which involved training in peer advocacy, addressing stigma, and a range of skills and behavioural counselling training, prior to the delivery of services.

However, Cabassa and colleagues (2017) noted the various methodological problems identified by earlier reviews, also found in another recent systematic review looking specifically at interventions seeking to improve physical health and lifestyle behaviours (Stubbs, Williams, Shannon, Gaughran & Craig, 2016). This made it difficult to draw any conclusions about the effectiveness of the peer support interventions investigated.

It is unfortunate that the quality of the evidence base examining peer support services is not very robust. Described in one systematic review as having “low methodological quality” (Fuhr et al., 2014, p.1700), the authors nevertheless found sufficient evidence from 10 systematic reviews to suggest that peer support is likely to have a small additional positive impact on recovery in people with SMI, and to improve quality of life, in comparison to standard psychiatric care. Peer support services were found to have the potential to positively influence the clinical and psychosocial outcomes of people with SMI, but studies of peer-delivered interventions for depression (n=4) showed no effect for any clinical or psychosocial outcomes being measured (Fuhr et al., 2014). Fuhr and colleagues found evidence from another two trials that peers may be equivalent to health professionals in improving clinical symptoms, as well as improving quality of life.

Lloyd-Evans and colleagues concluded that peer support programmes “should be implemented within the context of high-quality research projects wherever possible” (Lloyd-Evans et al., 2014, p.1).

Lack of evidence from high-quality randomised controlled trials does not equate to lack of effectiveness or poor quality of service, however, Lloyd-Evans and colleagues described confidence in the evidence for all outcomes as low or very low. But they did find some positive results for recovery-related outcomes, specifically self-rated recovery, hope and empowerment (Lloyd-Evans et al., 2014, p.9). Overall, peer support has been shown to do no harm and appears to contribute to better outcomes for people who access mental health services.

There is promising evidence about the effectiveness of peer support workers in primary care settings. The review by Whiteman and colleagues (2016) adds to evidence that peer staff providing conventional mental health services can be effective in engaging people into care, reducing the use of emergency rooms and hospitals, and reducing substance use among persons with co-occurring substance use disorders (Davidson, et al., 2012).

Mental health peers or professional staff in primary care also can be effective in implementing self-management components to address physical healthcare for individuals experiencing severe mental health problems (Kelly et al., 2014).

Peer support interventions for depression can result in greater improvement in depression symptoms than usual care and may have similar efficacy to group cognitive behavioural therapy (Pfeiffer, Heisler, Piette, Rogers & Valenstein, 2011). Peer workers are included as members of ‘the optimum primary mental healthcare team’ by the Joint Commissioning Panel for Mental Health in the UK.

Trauma-informed care

Trauma-informed approaches (TIAs) have developed in recent years in recognition of strong evidence that people using mental health and addiction services are more likely than the general population to have experienced trauma during their childhood (Sweeney, Clement et al., 2016).

Definitions of trauma vary between studies, but generally refer to events, either one-off or ongoing, that are experienced as harmful or life-threatening, and have lasting impacts on the person's mental, physical, social and emotional well-being (SAMHSA, 2014). A study of Adverse Childhood Experiences (ACE) investigated the association between childhood trauma and adult health in more than 17,000 largely white, middle class American citizens. The authors found that the more trauma people experience before the age of 18 years, the greater the impact over their lifespan. Impacts included poor mental health, poor physical health, sexual and reproductive health issues, engaging in high-risk activities, and premature death (Anda, Butchart, Felitti & Brown, 2010).

Because it is common for people who have been traumatised in childhood to be re-traumatised by their experiences in mental health services, there has been a great deal of work undertaken in recent years on developing trauma-informed care. Re-traumatisation in mental health services "includes overt acts, such as restraining and forcibly medicating a rape victim, as well as less palpable re-traumatisation, such as pressure to accept medication which mimics prior experiences of powerlessness" (Sweeney et al., 2016, p.176).

Although the concept of trauma-informed care has been mainly developed and researched in relation to mental health services, the approach is also relevant to general health services. In fact, Sweeney and colleagues (2016) argue that TIAs are applicable to all human services, including health, education, housing and social welfare, and has been applied to a range of women's health services in the US (Fuhr et al., 2014). Clearly, improvements in both mental health services and in general medical care services, using the principles of trauma-informed care, are important for improving both mental and physical health among mental health service users.

Table 4: Key principles of Trauma-Informed Care

Key principles of Trauma Informed Care	
1. Recognition	Recognise the prevalence, signs and impacts of trauma. This is sometimes referred to as having a trauma lens. This should include routine enquiry about trauma, sensitively asked and appropriately timed. For individual survivors, recognition can create feelings of validation, safety and hope.
2. Resist re-traumatisation	Understand that operational practices, power differentials between staff and survivors, and many other features of psychiatric care can retraumatise survivors (and staff). Take steps to eliminate re-traumatisation.
3. Cultural, historical and gender contexts	Acknowledge community-specific trauma and its impacts. Ensure services are culturally and gender appropriate. Recognise the impact of intersectionalities, and the healing potential of communities and relationships.
4. Trustworthiness and transparency	Services should ensure decisions taken (organisational and individual) are open and transparent, with the aim of building trust. This is essential to

Key principles of Trauma Informed Care	
	building relationships with trauma survivors who may have experienced secrecy and betrayal.
5. Collaboration and mutuality	Understand the inherent power imbalance between staff and survivors, and ensure that relationships are based on mutuality, respect, trust, connection and hope. These are critical because abuse of power is typically at the heart of trauma experiences, often leading to feelings of disconnection and hopelessness, and because it is through relationships that healing can occur.
6. Empowerment, choice and control	Adopt strengths based approaches, with survivors supported to take control of their lives and develop self-advocacy. This is vital as trauma experiences are often characterised by a lack of control with long-term feelings of disempowerment.
7. Safety	Trauma engenders feelings of danger. Give priority to ensuring that everyone within a service feels, and is, emotionally and physically safe. This includes the feelings of safety engendered through choice and control, and cultural and gender awareness. Environments must be physically, psychologically, socially, morally and culturally safe.
8. Survivor partnerships	Understand that peer support and the coproduction of services are integral to trauma-informed organisations. This is because the relationships involved in peer support and co-production are based on mutuality and collaboration.
9. Pathways to trauma-specific care	Survivors should be supported to access appropriate trauma-specific care, where this is desired. Such services should be provided by mental health services and be well-resourced.

Source: Sweeney et al., 2016, p.178

Psychological therapies

Psychological therapies are of interest to this review because of their potential to reduce the use of psychotropic medication in treating mental health conditions and addiction, and therefore the impact of medication on physical health. In some cases, it is possible for psychological therapies to replace medication altogether, as an effective treatment.

There is good evidence that cognitive behaviour therapy (CBT) can be as effective as medication in treating depression and anxiety, and is more effective at preventing relapse than medication (Cuijpers et al., 2013). Based on growing evidence, international clinical guidelines recommend the use of particular psychological therapies alongside, or as an alternative to, medication for people with depression and anxiety being treated in primary care.

The evidence about the effectiveness of psychological therapies in psychosis is not as clear, but it is sufficiently strong for NICE guidelines (2014) to recommend psychological therapy in the prevention of psychosis, in first episode psychosis, and as an option for the treatment of psychosis.

A meta-analysis of randomised controlled trials investigating the effectiveness of motivational interviewing in improving physical health and lifestyle-related problems (Rubak, Sandboek, Lauritzen & Christensen, 2005), showed a significant effect for body mass index, total blood cholesterol, systolic blood pressure, blood alcohol concentration and standard ethanol content. Motivational interviewing was found to have an equal effect on physiological problem (72 per cent) and psychological problems (75 per cent).

There were no review studies found that investigated the impact of psychological therapies on physical health, but a single study of nurse-led behavioural counselling to improve metabolic health among 21 adults with mental health problems shows promise for this intervention (Fraser, Brown, Whiteford & Burton, 2017). The intervention included six face-to-face counselling sessions conducted over 19 weeks by a registered nurse (RN) trained in physical activity and lifestyle issues, and progress reviews with a medical practitioner. Physical activity increased and weight was reduced overall, and there were statistically-significant improvements on waist circumference and waist-to-height ratio.

Oral Health

A recent qualitative research project set out to determine whether providing rehabilitative dental treatment to a vulnerable group of tangata whaiora would contribute to improvement in their mental functioning and oral-health-related quality of life. This successful oral health intervention involved 41 Māori mental health patients based within Tauranga Moana (Western Bay of Plenty), before and after receiving a complete course of dental care (Broughton, Anderson & Lawrence, 2013).

Participants in this study completed a mental health interview (the Health of the Nations Outcome Scale, or HoNOS mental health interview tool) with a Māori psychiatrist, followed by a dental health interview by Māori oral health professionals. They then underwent a course of free dental treatment, after which they were re-interviewed to ascertain the impact on their health and wellbeing of having a restored dentition. Twenty-eight of the patients completed dental treatment and 17 completed all post dental treatment interviews.

Prior to treatment, all participants reported episodes of dental problems such as pain and toothache, infection and bad breath. Cost is a major barrier to accessing dental healthcare among adult New Zealanders on low incomes. All participants reported seeking only emergency dental care as an adult. All had unmet dental treatment needs such as dental caries, failed restorations, retained roots, periodontal disease, and tooth loss.

"I won't get photos taken with the way my teeth look. I'm looking forward to getting photos with my kids. I wouldn't say as such but when I lean over to children they can see the decay and discoloration; they comment on, 'Mum you're not brushing properly'."

"(I'm not) setting a good example for the children."

After oral rehabilitation, most participants reported a positive improvement in their psychosocial well-being, oral function, self-esteem, relationships and dynamics within their immediate social environment.

"My whānau spoil me."

"My kids are happier to be with me. They walk with me instead of behind me."

A major improvement in the oral-health-related quality of life of the participants was recorded (Broughton et al., 2013).

Addressing stigma and discrimination

A narrative review investigating effective interventions intended to reduce mental-illness-related stigma or discrimination (Thornicroft et al., 2016), summarised the international evidence as follows:

- At the population level there is a fairly consistent pattern of short-term benefits for positive attitude change, and some lesser evidence for knowledge improvement.
- For people with mental illness, some group-level anti-stigma inventions show promise and merit further assessment.
- For specific target groups, such as students, social-contact-based interventions usually achieve short-term (but less clearly long-term) attitudinal improvements, and less often produce knowledge gains.
- This is a heterogeneous field of study with few strong study designs with large sample sizes.
- Research from low-income and middle-income countries is conspicuous by its relative absence.
- Caution needs to be exercised in not overgeneralising lessons from one target group to another.
- There is a clear need for studies with longer-term follow-up to assess whether initial gains are sustained or attenuated, and whether booster doses of the intervention are needed to maintain progress.
- Few studies in any part of the world have focused on either the service user's perspective of stigma and discrimination or on behavioural change, in the complex processes of stigmatisation.

- Social contact was found to be the most effective type of intervention to improve stigma-related knowledge and attitudes in the short term. However, the evidence for longer-term benefit of such social contact to reduce stigma is weak.
- A concerted effort is needed to fund methodologically strong research that will provide robust evidence to support investment in interventions to reduce stigma (Thornicroft et al., 2016).

The findings of this narrative review are consistent with those of an earlier systematic review on the same topic, involving some of the same authors (Mehta et al., 2015), which concluded that

Evidence does not support the view that social contact is the more effective type of intervention for improving attitudes in the medium to long term. Methodologically strong research is needed on which to base decisions on investment in stigma-reducing interventions (Mehta et al., 2015, p.377).

Mental illness anti-stigmatisation interventions have been in place internationally for long enough to be studied, although the quality of research is variable. A number of studies have compared contact-based interventions, involving people with experience of mental health problems talking about their experience, with educational and other approaches.

A recent review study investigating whether the effects of contact-based anti-stigma programmes persist over time (Corrigan, Michaels & Morris, 2015) showed a significant effect size on attitude change for contact interventions and this was greater than for education programmes. However, the authors noted that there were insufficient studies to examine effects on behaviour (Corrigan et al., 2015).

In their systematic review of interventions targeting stigma in the workplace, Hanisch and colleagues (2016) found tentative evidence that anti-stigma interventions could result in improved employee knowledge and supportive behaviour in the workplace, but there was variable quality across studies. Intervention types included Mental Health First Aid, online training, group discussions, trauma risk management, anti-stigma workshops, psychoeducation and crisis intervention training.

Gordon, Ellis, Gallagher and Purdie (2014) described and reflected on observations of service user-led teaching of final-year New Zealand medical students. They were attached to a clinical team for four weeks, working directly with service users under clinical supervision. The authors found that students became more pessimistic about the possibility of recovery after spending time with inpatient services, and working with acutely unwell service users. The authors concluded that “a more fundamental and extensive reorientation is required across all our teaching, learning materials, attachments, supervision and assessment” (Gordon et al., 2014, p.188).

In a systematic review of stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery, van Boekel and colleagues (2013) found that health professionals tended to have lowered regard, less motivation and feelings of dissatisfaction when working with this patient group, compared with others. A common perception was that these

patients were potentially violent, manipulative, or poorly motivated, leading to frustration, resentment and powerlessness among the professionals.

Health professionals who worked with or who had more contact with patients with substance use disorders, expressed more positive attitudes. This supports the contact hypothesis, that people who have more contact or have more experience with a stigmatised condition are more tolerant and have more positive attitudes towards people with substance use problems. Organisational support, including training and supervision, and the ability to consult an expert, was found to contribute significantly to an increased willingness to work with these patients. Furthermore, “organisational support enhances self-esteem, perceived knowledge and feelings of empowerment among health professionals” (van Boekel et al., 2013, p.33).

Addiction anti-stigmatisation interventions have been few and far between internationally, with the illicit nature of much substance use acting as a contributor to stigma and a barrier to addressing stigma in media campaigns.

Diagnostic overshadowing

‘Diagnostic overshadowing’ is a term used to describe a clinical diagnosis that fails to identify a comorbidity, or where there is a delay in diagnosis. For people with mental health and addiction diagnoses, this phenomenon can result in physical health problems not being addressed by health professionals. This is a form of discrimination that can have serious implications. Because it is thought to increase the risk of delaying treatment for physical health problems, diagnostic overshadowing has been identified as a contributing factor to health disparities between people with and without experience of mental illness (Noblett et al., 2015) and is therefore a priority for *Equally Well* action.

Noblett and colleagues (2015) attempted to better understand the attitudes of medical staff, to enable developing effective interventions for addressing diagnostic overshadowing. In their study involving 52 doctors working in three hospitals in London, the authors found that the least positive attitudes were towards patients with schizophrenia, personality disorder, diabetes and criminal behaviour. The doctors’ negative attitudes were found to relate to the unpredictability of people in these categories. Of patients with a mental illness diagnosis, people with depression and alcohol problems were viewed more positively than those with other diagnoses, and this is consistent with other studies (Reavley et al., 2014). The authors concluded that “the presence of these negative attitudes in the general hospital setting are likely to be a contributory factor to diagnostic overshadowing” (Noblett et al., 2015, p.11).

A qualitative study of health professional attitudes towards people with mental illness was undertaken in four London hospitals during 2012 and 2013 (Shefer, Henderson, Howard, Murray & Thornicroft., 2014). The study was investigating the scope and causes of diagnostic overshadowing in people with mental illness who present in emergency departments (EDs) with physical symptoms. The authors found that stigmatising attitudes were a factor in the under-diagnosis and delayed

treatment of physical health problems among people with mental health problems, in a relatively small number of cases. However, such attitudes could have life-threatening consequences for the person, resulting in premature death or prolonged illness. Training was recommended on how to improve the diagnostic process of people with mental health problems presenting with physical problems, in addition to agreed procedures in more complicated cases.

Early intervention in psychosis

Early intervention services aim to improve outcomes for people experiencing a FEP, by reducing the duration of untreated psychosis, and improving access to effective treatment. Intervening early has been found to reduce hospital admission, relapse rates and symptom severity, and improve access to and engagement with treatment (Bird, Premkumar et al., 2010). These advantages alone will improve physical health outcomes for people with FEP, and there are now good examples of weight management interventions that can further reduce the negative side effects of medication in this group.

The evaluation of an Australian 12-week individualised programme (Curtis et al., 2016) incorporated:

- health coaching with motivational interviewing
- dietetic support
- exercise
- peer wellness coach
- antipsychotic medication switching after 5 kg weight gain.

The intervention group experienced significantly less weight gain at 12 weeks compared to standard care (1.8 kg vs. 7.8 kg). Compared with the intervention group, 13 per cent of whom experienced clinically significant weight gain (greater than 7 per cent of baseline weight), three-quarters of the standard care group experienced this level of weight gain. There were similar positive effects for waist circumference.

However, a recent review study of non-pharmacological interventions to improve physical health in people diagnosed with FEP confirmed previous findings that, while there was good evidence in support of the above type of intervention in people with FEP, evidence for long-term effectiveness of weight loss interventions is limited (Gates et al., 2015). This is a problem of study design and cost, rather than a reflection on the intervention itself.

Gates and colleagues (2015) conclude that “preventing weight gain in patients who have started antipsychotic drugs and promoting early attempts to stop smoking are likely to be more effective and achievable” than attempting to intervene in chronic forms of psychosis.

Open Dialogue

There has been a lot of interest in recent years in ‘the Finnish open dialogue’ approach in responding to psychosis. This is mainly because of limited but compelling evidence that this approach, developed in Finland since the early 1990s, has significantly reduced the incidence of people with FEP in developing chronic symptoms, with minimal use of psychotropic medication and associated side effects. In a case control study with five-year follow-up in the Finnish Western Lapland involving 75 service users, it was found that more than 80 per cent of the open dialogue group (n=42) had no residual psychotic symptoms and were able to return to their studies or full employment (Seikkula et al., 2006).

A later 10-year follow-up study was published by the same authors (Seikkula, Alakare & Aaltonen, 2011) who found that their earlier results had been largely maintained, and the outcomes remained as good as for the first two periods. The authors suggested that the new practice can be related to profound changes in the incidence of severe mental health problems. Professionals in Western Lapland had learned to make early contact in the event of crisis, and by this means prevent problems from developing into more severe cases.

Open dialogue is described as a family and social network approach to crisis intervention, which aims to treat people in their homes within 24 hours after contact, and involve the same team in both inpatient and outpatient settings. It draws upon the techniques of dialogical practice, a distinct form of psychotherapeutic conversation within open meetings involving the person’s social network, including family, friends and co-workers (Olsen, Seikkula & Ziedonis, 2014). The person’s own words, language and stories are focused on, rather than a diagnosis. Services such as individual psychotherapy, psychopharmacology and vocational rehabilitation may be integrated into treatment at some point if the person chooses, however, the core component of the process is the ongoing dialogue in the network meetings.

Open dialogue attempts to minimise the use of psychotropic medication. It is this aspect of the approach that is of particular interest to those wishing to reduce the risk of the many physical health problems associated with the use of these drugs.

Validation of the interpersonal reality of the person, normalising their experiences and emphasising the present moment is important, as is teamwork and openness among people in the network meetings. Every person’s contribution is valued.

Staff members are concentrated in mobile crisis intervention teams, rather than in acute care in hospital settings (Olsen et al., 2014).

Only one review study was found for open dialogue. Lakeman (2014) aimed to both identify and describe the evidence base, and identify the critical ingredients for adoption in different service settings. The author found that most studies were descriptive of the process (including case studies) or principles (see below from Seikkula et al., 2006), rather than attempting to assess the effectiveness of the approach.

Guiding principles of open dialogue

- **Immediate help** – the first meeting should be organised immediately, within 24 hours of contact.
- **Social network perspective** – the social network of the person should be invited from the outset and included as long as required (could be friends, family, professionals, etc.).
- **Flexibility and mobility** – the intervention should be adapted to the specific and changing needs of the person and family. Network meetings are typically in the person's home and happen as needed, which may be daily during a crisis period.
- **Responsibility** – the staff member who is first contacted is responsible for organising the first meeting and after this, the team is responsible for the whole treatment irrespective of whether it continues for months or years. The system should guarantee that specific people/teams will take responsibility for the entire treatment.
- **Psychological continuity** – the same team of therapists stays with the family for the length of treatment. The therapeutic process builds slowly over time, trust develops and dialogue which offers the opportunity for change can happen.
- **Tolerance of uncertainty** – the therapist should have an attitude which avoids premature conclusions about treatment. They should aim to generate a therapeutic process which can tolerate uncertainty in order to build dialogue and mobilise the psychological resources of the social network.
- **Dialogism** – the main focus of the network meetings is to generate dialogue, build a joint language and new understanding for experiences between people in the network (Seikkula et al., 2006).

The evidence for effectiveness of open dialogue is best described as promising, as most outcome data involves small numbers (>100) drawn from case control studies in Western Lapland.

For example, Aaltonen, Seikkula and Lehtinen (2011) examined the case notes of all FEP clients before the introduction of open dialogue in the years 1985-1989, and after the introduction, from 1990-1994, and compared the two groups. Their findings suggested a significant reduction in the incidence of all schizophrenic disorders (from 73 to 41 patients).

Lakeman (2014) discussed these findings and agreed that they demonstrate the value of well-organised social support in relatively small communities. However, he suggested that “to what extent this can be replicated in other more heterogeneous cultures and different service cultures remains to be seen” (Lakeman, 2014, p.31). He argued that much of the success of open dialogue was due to the concentration of qualified psychotherapists with a minimum of three years of postgraduate study. Few services in the world have this capacity available in psychiatric services.

Open dialogue has been taken up in trial teams in Scandinavia, Germany and in some US states. It has recently been put into practice in the UK, and a survey of opinions of National Health Service

(NHS) staff and service users attending an open dialogue conference has been published (Razzaque & Wood, 2015). There was consensus among the 61 respondents on the importance of the principles. A research programme is being developed on open dialogue practice in the UK¹⁸, including a randomised controlled trial.¹⁹

At this stage, while the evidence is not strong, the open dialogue principles summarise a welcome direction in clinical practice which is supported by clinical guidance referred to in this review.

Individual behaviour change interventions

There is a large body of literature on how to change people's behaviour to improve their health, and in recent years several important review studies have been published that support the provision of well-designed interventions for people with SMI (Baxter et al., 2016; McGinty et al., 2016; Whiteman et al., 2016). However, cost and methodological considerations make it difficult to demonstrate that any particular intervention has resulted in sustainable behaviour change.

This section provides recent evidence for effectiveness in modifying risk factors through behaviour change, among people with mental health conditions and addiction.

Self-management

Psychiatric self-management interventions have been demonstrated in randomised controlled trials to be successful in improving mental health outcomes (Whiteman et al., 2016), but there is less evidence about their effectiveness in improving physical health outcomes in people with mental health problems.

Whiteman and colleagues (2016) published a systematic review of self-management interventions targeting both physical and mental health problems in adults with SMI. Nine interventions were identified that had high potential for clinical effectiveness for both mental and physical health conditions, based within integrated or collaborative care models. The 15 studies involved between 13 and 183 participants with serious mental and physical health problems (mainly diabetes and heart problems), based in a range of settings including community mental health centres, outpatient mental health facilities, assisted living facilities, primary care, and supported housing residences. Peer support was an integral part of four of the programmes.

Types of interventions found to be successful are summarised below.

¹⁸ Information on open dialogue in the UK can be found at <http://developingopendialogue.com>.

¹⁹ For a video clip on this, go to https://www.youtube.com/watch?feature=youtu.be&utm_campaign=missed_yesterday&utm_medium=email&utm_source=user_mailer&v=AxGPcSPR04c (retrieved 24 August 2016)

- **Automated telehealth services** – for remote and home-based clients supported by a nurse at a mental health centre.
- **Health and Recovery Peer (HARP) programme** – involving peer-led group sessions with clients over a six-month period in a community mental health centre.
- **Helping Older People Experience Success (HOPES)** – enhanced skills training and self-management sessions co-led by a nurse and case manager in a community mental health centre, over 12 months (twice weekly group meetings and weekly nurse preventive healthcare visits).
- **Integrated Illness Management and Recovery** – individualised goal development, recovery strategies, psychoeducation, healthy lifestyles, medication and health management, and relapse prevention planning over an eight-month period of weekly individual sessions.
- **Life Goals Collaborative Care** – four two-hour group sessions followed by six months of monthly telephone care management services, in a Veterans Affairs outpatient mental health facility.
- **Living Well** – includes both mental health and addiction issues, and cross-co-ordination of services, set in an outpatient clinic and psychiatric rehabilitation day programme. Focus on confidence building with material on how serious mental illness affects general medical status and vice versa. Groups co-led by a mental health peer and a mental health provider, or by two mental health peers who also have a chronic medical condition.
- **Norlunga Chronic Disease Self-Management programme** – education and peer support provided in a primary care setting, involving 12 months of a hybrid individual and group approach.
- **Paxton House** – psychosocial rehabilitation and diabetes self-management services, education and nutrition programmes, psychiatric support, intensive case management and residential support.
- **Targeted Training in Illness Management** – psychiatric and diabetes self-management intervention based in primary care. Groups co-led by peer educator with SMI and diabetes, and nurse educator.

A systematic review that examined collaborative and integrated models of care provided some evidence that self-management components of care for individuals with SMI could be feasible and efficacious in improving health outcomes (Kelly et al., 2014). However, this conclusion was based on a small number of studies that had significant heterogeneity in sample sizes, outcome measures, study length, intervention length and participant conditions.

It was not clear whether the positive findings reflected the importance of empowering individuals to take charge of their healthcare, or was a result of improved collaborative care and communication between physicians, mental health providers and service users. However, the evidence suggested models of care that motivate service users to address their general health (with the support of a professional or peer) can improve health, medication adherence and healthcare use.

The evidence brought together by Kelly and colleagues (2014) indicates that models using group-based training are associated with significant improvements in the self-management skills of service users. Of eight studies that included self-management, the five that reported significant improvements in self-management skills had a group-based component.

Three of the five studies that found significant improvements in self-management skills used peer trainers, either alone or in combination with a nurse or mental health worker. There were no apparent differences in outcomes related to whether the models depend on peers, professionals, or a combined approach. While both peers and professionals were found to be effective in improving self-management, the authors noted that few studies have analysed and compared costs (Kelly et al., 2014).

Behavioural health interventions

In their comprehensive review of interventions to improve physical health in people with SMI, McGinty and colleagues (2016) set out to address two important gaps in the literature. Firstly, most reviews in this area have focused on a particular condition or risk behaviour, respectively, obesity and smoking. Secondly, most reviews included only randomised controlled trials, which cannot test the effects of legislation, policy change and other types of social intervention. Neither can they provide useful information about the feasibility and effects of interventions in real-world settings.

The authors found low or insufficient evidence overall regarding the effectiveness of interventions which aimed to address major medical conditions and risk factors. The evidence was strongest for interventions to prevent or mitigate overweight and obesity. These studies included both behavioural interventions and metformin for improving weight control. In relation to high-quality clinical trials, the authors suggested that “several elements may play an important role in intervention success, including effective tailoring for SMI, use of social support strategies, and incorporation of both behavioural self-management skills training and environmental supports” (McGinty et al., 2016 p.116). Those interventions with higher frequency of contacts and longer duration had the most beneficial effects.

Given the limitations of evidence for effective behavioural change interventions identified by McGinty and colleagues, they suggested an ambitious research agenda that included:

- evaluation of long-term interventions that addressed both individual and multiple conditions
- studies of prevention and mitigation of health-risk behaviours in SMI
- assessment of comprehensive interventions with behavioural, pharmacologic, clinical and policy components
- evaluations of healthcare policy and delivery system reform on physical health outcomes among people with SMI
- studies of implementation of interventions into real-world settings.

Recent UK clinical guidelines on managing weight gain, metabolic disturbances and cardiovascular risk (Cooper et al., 2016) recommend behavioural lifestyle interventions, based on positive effects found in the majority of randomised controlled trials that inform the guidelines.

These should almost always be part of the first line of approach and in most circumstances, should be continued in addition to any additional intervention...on average, these interventions will reduce existing weight by approximately 3 kg more, and BMI by approximately 1 kg/m² more, than the control treatment. They will attenuate weight gain in first episode initiations of antipsychotics (Cooper et al., 2016, pp. 7-10).

However, they note that there is no clear evidence regarding the optimal duration of engagement with behavioural interventions. There is also little known about the maintenance of effects. Programmes seem to work best if designed specifically for those with psychosis and if they combine elements of both group and individual approaches.

A Danish study investigating the reduction of cardiovascular risk factors in 108 non-selected outpatients with schizophrenia (Hansen et al., 2016) evaluated a programme aiming to improve the physical health of this group as part of routine care. Difficulties were identified, particularly for people using antipsychotic medication. The intervention involved monthly individual consultations between people diagnosed with schizophrenia and a health professional trained in improvement. Motivational interviewing methods were used with the aim of improving the person's physical health through smoking cessation, nutrition and physical activity. Group sessions were also held which included education and discussion about physical health issues. All measurements were obtained at baseline, and weight and waist circumferences were monitored monthly with a 12-month follow-up of baseline measurements.

The study was able to demonstrate reductions in several CVD risk factors – blood pressure, total cholesterol, and mean blood glucose – however, there was a significant mean gain in BMI and waist circumference after 12 months. There were markedly better outcomes in all physical health measures among people who did not use antipsychotic medication, and this was consistent with findings from other similar studies (Hansen et al., 2016). In particular, the antipsychotic drug clozapine has “a troublesome adverse effect profile” for physical health (Every-Palmer et al., 2017b, p.75), including significant weight gain and associated cardio-metabolic health risk (Galletly et al., 2016).

Using technology

Over the last decade or so, there has been a rapid growth in using technology in mental health and addiction service delivery. A recent review of eHealth interventions for serious mental illness (Naslund, Marsch, McHugo & Bartels, 2015a) identified 46 studies in 12 countries that reported outcomes on interventions for people with schizophrenia, schizoaffective disorder or bipolar disorder, using mobile, online or other devices. The use of online and mobile technology has also

been used widely for addressing less severe mental health need, with a particular focus on people living in rural communities (Benavides-Vaello, Strode & Sheeran, 2013; Perle & Nierenberg, 2013).

Naslund and colleagues (2015a) grouped electronic mental health interventions into four categories. One was 'psychoeducation, supporting recovery, and promoting health and wellness', which is of particular interest to this update. Of the 11 interventions studied in this category, only one focused on improving physical health (Naslund, Aschbrenner, Barre & Bartels, 2015b), and this was a feasibility study of wearable activity monitoring devices and mobile applications for the devices. The study demonstrated the feasibility and acceptability of this technology for people with schizophrenia and bipolar disorder. There is also a body of research that has investigated the effectiveness of mobile phone interventions on increasing physical activity and reducing weight in the general population. Given the acceptability and uptake of this technology with mental health service users, the findings are directly relevant.

A systematic review of mobile phone intervention use among mental health service users included seven articles related to cardiovascular risk factors of physical activity and being overweight (Stephens & Allen, 2013). More than half of the studies reported statistically significant results in terms of risk reduction, including weight loss and increased physical activity. All of the interventions that included educational components, or an additional intervention alongside the smartphone app, demonstrated a beneficial impact. The authors noted however that there was a lack of evidence for children and older people and therefore the positive effects of the technology should be generalised only to middle-aged adults.

The effectiveness of mobile phone-based health interventions (m-Health) in healthcare consumers was investigated in another systematic review of controlled trials (Free et al., 2013). Twenty-six trials described interventions aiming to increase healthy behaviours such as smoking cessation, and 49 investigated targeted management of diseases like diabetes. Few of these studies identified people with mental health problems as participants, and the findings were mixed, both in the quality of research and outcomes.

Nutrition interventions

A recent systematic review and meta-analysis investigated good quality studies of nutrition interventions in people with SMI with promising results (Teasdale et al., 2016). The authors found significantly improved weight, BMI, waist circumference and glucose levels in participants. Nutrition interventions delivered by dietitians, and those aiming to prevent weight gain at antipsychotic initiation, had the largest effect sizes. This evidence supports the early inclusion of nutrition intervention in mental health service delivery to people with SMI.

These findings show a clear and important role for dietitians as part of the multidisciplinary mental health team. Although the overall effect size for anthropometric measures was within the small to moderate range, it provided further evidence to support implementation of lifestyle interventions (Teasdale et al., 2016, p.6).

Interventions for lifestyle factors were investigated in 10 systematic reviews that measured health outcomes associated with behavioural interventions in people with SMI. Findings were summarised by Baxter et al., (2016) and these were mixed. The strongest findings were in relation to reduced cardiovascular risk. A number of the studies showed no or very limited improvement as a result of the behaviour change interventions, and few studies were able to use mortality as a measure.

Weight loss or obesity management were most commonly used to measure health outcomes. The overall finding was that modest but significant improvements can be made to physical activity and eating habits through improving lifestyle factors, among people affected by weight gain due to psychotropic medication. In reviews that looked at both pharmacological and behavioural interventions, both were associated with a similar magnitude of improvement. Several reviews were able to demonstrate improvements in insulin levels, fasting glucose levels, total cholesterol, low-density lipoprotein (LDL) cholesterol and triglyceride levels, and other metabolic risk measures.

There was less evidence supporting m-Health interventions in diabetes control and simple texted medication reminders showed no benefits. Very limited benefits were shown for diet and diet/exercise. Some short-term benefits were demonstrated for m-Health interventions for asthma control, physical activity, and psychological support (Free et al., 2013).

Physical activity interventions

As noted in the previous review, physical activity interventions alone are less effective in improving health and wellbeing in people with mental health conditions and addiction than comprehensive wellbeing programmes, supported by peers and professional staff. Physical activity programmes were more likely to be successful if they offered personal counselling and advice, with choices of physical activity, and a combination of group and individual approaches (Te Pou o te Whakaaro Nui, 2014).

However, there is evidence to support the benefits of physical activity, in both the general population and among people with mental health conditions and addiction, and particular on improving cardiorespiratory fitness (Vancampfort, Rosenbaum, Ward, Stubbs, 2015). A recent Australian study provides examples of successful interventions in mental health settings which are quite new and already demonstrating many health benefits for mental health service users (Lederman et al., 2017).

The programmes studied are summarised below.

- **Keeping the Body in Mind:** A lifestyle intervention that has been successful in preventing antipsychotic-induced weight gain in first episode psychosis.
- **Exercise in the inpatient setting:** A number of these are now in place around Australia, and demonstrating themselves to be beneficial, well-received, and greatly valued by service users.

- **Exercise in residential care facility:** In a pilot collaboration in Brisbane between a mental health disciplinary team in a residential rehabilitation setting and a university, early results indicated promising improvements in fitness, sedentary behaviour, negative symptoms and physical activity.
- **Community-based interventions:** *Healthy Bodies, Healthy Minds* is an exercise, nutrition and social engagement programme of group activity sessions and gym-based sessions, with assistance from peer support workers and dietitians. It is a good example of a successful, service-wide, evidence-based approach for mental health service users in partnership with community organisations.

Key components of physical activity interventions in mental-health settings were identified by Lederman and colleagues (2017, p.3) as follows:

- **Early intervention:** Intervention at the earliest stages of psychosis is imperative in preventing rapid weight gain typically seen at commencement of antipsychotic medication.
- **Routine metabolic monitoring:** Monitoring of cardiometabolic indicators (including body mass index, blood pressure, waist circumference and metabolic blood profile) even before antipsychotic medication commencement to determine an appropriate level of intervention, based on established risk-stratification algorithms.
- **Multidisciplinary approach:** All key stakeholders should be involved in physical activity promotion, including mental health and allied health team members, family and carers. All interventions should apply recovery-orientated consumer-centred practices, achieved by routine programme evaluation and consumer feedback.
- **Behaviour-change strategies:** Apply principles of motivational interviewing and behaviour-change counselling by determining readiness to change and satisfying the three psychological needs of competency, autonomy and relatedness.
- **Individualisation:** Individualised physical activity counselling (to promote increased physical activity and reduced sedentary behaviour) and supervised, tailored exercise programs (to address individual fitness goals) are associated with better adherence and lower drop-out. Tailoring exercise programmes based on the individual's physical fitness, physical activity history, goals, level of motivation and specific needs will also maximise adherence and engagement. Identifying and problem-solving barriers to attendance will facilitate adoption and maintenance of physical activity.
- **Supervision:** Exercise professionals and physiotherapists are ideally positioned to provide safe, evidence-based exercise interventions, and adults with mental illness prefer direct assistance from exercise professionals (rather than education or support from doctors or clinicians).

Problematic substance use

Alcohol

In a recent systematic review, social marketing alcohol-related interventions were found to create positive effects, through changing behaviours and policies to affect short term or immediate changes (Kubacki, Rundle-Thiele, Pang & Buyucek, 2015). Longer-term change was also found through attitude, behavioural intention and/or raising awareness.

Good evidence continues to emerge, that brief interventions in primary care settings can be beneficial, in reducing alcohol-related harm, particularly for adolescents and young adults. The impacts of brief interventions tend to be modest but are potentially worthwhile as they are easy to deliver and low-cost, and the effects are maintained for up to a year following the intervention (Tanner-Smith & Lipsey, 2015).

There is promising evidence for smartphone applications in reducing alcohol consumption (Meredith et al., 2015). However, of the 662 alcohol-related apps available in the US, only six had good quality published evaluation results, and of these, only two had demonstrated (self-reported) reductions in alcohol use. The strongest evidence was for A-CHESS (Alcohol – Comprehensive Health Enhancement Support System), a relapse prevention app for individuals in recovery from alcohol dependence who have been recently discharged from residential care. It is informed by self-determination theory, which suggests motivation and wellbeing are enhanced when certain psychological needs are being met (competence, autonomy and relatedness). The identification and prevention of high-risk relapse situations are a key feature of the app. For example, it uses GPS-enabled location tracking to alert the user when a high-risk location is approached. Social support can be accessed via discussion forums, and a 'panic button' can be pushed which will contact pre-approved family and friends if support is needed.

A randomised controlled trial involving 349 participants (Gustafson et al., 2014) found that patients who received A-CHESS reported significantly fewer drinking days during the 12 months following intervention than those in the control group. Further research by Meredith and colleagues (2015) concluded that the apps were promising for both adults and teenagers in recovery for alcohol and substance use disorders.

Qualitative research investigating the use of mobile apps (Ford et al., 2015) assessed staff perceptions about organisational attributes and strategies associated with sustained use of A-CHESS. The authors concluded that mobile apps can play an important role in healthcare delivery, if strategies are developed for engaging both staff and patients in ongoing use of the apps.

A recent systematic review of school-based alcohol and drug prevention programmes (Agabio et al., 2015) investigated many of these programmes established around the world. Globally, 23 trials (43.4 per cent) showed some evidence of effectiveness compared to control groups, whereas in the remaining 30 trials (56.6 per cent), there was no statistically significant difference in the

effectiveness between the intervention programs and the control groups. Most of these trials were conducted in North America and Australia, and none in New Zealand. The evidence supporting school-based programmes appears to be relatively weak, and the authors were unable to identify characteristics to distinguish trials with positive effects from those with no effects.

Thiamine in Wernicke-Korsakoff syndrome

Wernicke-Korsakoff syndrome (WKS) is a disorder of the brain caused by a deficiency of vitamin B (thiamine) associated with heavy drinking. It is characterised by an acute onset of symptoms which may include an eye movement disorder, lack of voluntary co-ordination of muscle movement (ataxia) and confusion. Some people die in the acute phase and many survivors go on to develop permanent memory problems. Prophylactic thiamine is commonly prescribed for people who are heavy drinkers.

A Cochrane review investigating the efficacy of thiamine in preventing and treating the manifestations of WKS, due to excess alcohol consumption, attempted to determine the optimum form, dose and duration of thiamine treatment (Day, Bentham, Callaghan, Kuruvilla & George, 2013). Very limited evidence could be derived from randomised controlled clinical trials to help physicians choose the right dose, frequency, route or duration of thiamine treatment for preventing or treating WKS due to alcohol abuse.

However, chronic alcohol consumption is an important cause of the disorder, and hazardous alcohol use is common among people with mental health problems as well as in the general population. The prescribing of dietary thiamine for people who drink heavily is therefore widely recommended.

Injecting drug use

Needle exchange programmes have been found to protect people who inject drugs from HIV and hepatitis. The findings of a review investigating the effectiveness of these programmes internationally, highlight their significant public health benefits (Abdul-Quader et al., 2013). The findings indicate the importance of establishing structural-level large-scale syringe access programmes for HIV prevention, especially early in an epidemic. New Zealand's early adoption of needle exchanges has certainly contributed to a significant reduction in the prevalence of HIV in New Zealand, if not HCV (Dickson et al., 1994).

Tobacco smoking

Tobacco smoking is well established as a leading preventable cause of death, and rates among people with mental health problems are very high. Liu and colleagues (2017) reviewed smoking cessation studies to inform the development of an intervention framework to reduce excess mortality in people with mental health problems. They found that about 50-60 per cent of people with severe mental disorders (SMD) smoke tobacco. Yet smoking cessation has been found in many studies to lead to reduced levels of anxiety, depression and stress. A recent systematic review concluded that "there was no evidence that the effect size differed between population subgroups

based on clinical diagnosis, and the effect on depression, psychological quality of life, and positive affect was significant in people who had mental disorders” (Taylor et al., 2014, p.7).

Tobacco smoking is particularly prevalent among people in treatment or recovery from substance use disorders. Studies cited in a recent systematic review indicate that between 74 per cent and 98 per cent are smokers (Thurgood et al., 2015). The authors found relatively few high-quality studies, but nevertheless concluded that “smoking cessation interventions using NRT [nicotine replacement therapy], behavioural support and combination approaches appear to increase smoking abstinence in those treated for substance use disorders and have no effect on other substance use treatment outcomes” (Thurgood et al., 2015 p.999).

Smokefree hospital policies alone have been found to be effective in reducing smoking prevalence in people admitted to psychiatric wards. In a systematic review investigating the impact of smokefree psychiatric hospitalisation on patient smoking outcomes, evidence was found of a significant decline in cigarette consumption following discharge from hospital (Stockings et al., 2014). Positive changes in motivation to quit and beliefs about quitting ability were identified in two studies. The authors concluded that “a smoke-free psychiatric hospitalisation may have a positive impact on patients’ smoking-related behaviours, motivation, and beliefs, both during admission and up to three months post discharge” (Stockings et al., 2014, p.1).

A New Zealand study investigating smokefree culture within mental health and addiction services, surveyed staff, smokefree co-ordinators, and cessation specialists to identify perceived barriers to becoming smokefree, and review staff attitudes to providing support for service users to quit smoking (Glover et al., 2014). Results were analysed from a total of 56 staff, most of whom were employed by DHBs, and three categories of organisations were identified, according to their progress towards a smokefree culture.

- **Permissive smoking cultures** tended to have little support from management and staff for change, minimal provision of cessation support to staff and service users, high smoking prevalence among staff, poor acceptance of smoking as problematic, and scepticism about cessation support for service users. Smoking is permitted in designated areas.
- **Transitional smoking to smokefree cultures** are characterised by some level of support for smokefree policy, and the provision of cessation support for service users.
- **Smoke-free cultures** were less common, with only eight fitting the criteria.

Barriers identified were found to replicate findings reported in other countries; “...policy that exempts mental health services, poorly-written or poorly-enforced policy, staff smoking, negative staff attitudes to becoming smokefree, poor knowledge of nicotine dependence and smoking-related harm, and poor knowledge and skills regarding cessation options” (Glover et al., 2014, p.189).

For interventions that include smoking cessation, Liu and colleagues (2017) recommended provider training and materials specific to those with mental health problems. They found good evidence that

combination treatment including counselling and bupropion, with or without NRT, are effective with this population.

Adding environmental supports (ie resources or cues in the environment that facilitate functioning, such as smartphone reminders), strategies to adapt for cognitive and motivational deficits (eg breaking large tasks or pieces of information into smaller components, repetition, multimodal delivery of information), increased frequency of contact, and social support may help health provider interactions be most effective (Liu et al., 2017, p.33).

These findings are consistent with those of McGinty and colleagues (2016) who also pointed to evidence of the beneficial effects of varenicline on smoking cessation for people with schizophrenia.

A recent high-quality randomised controlled trial was undertaken across four psychiatric inpatient facilities in Australia (Metse et al., 2017). It demonstrated good results in increasing 7-day point prevalence smoking cessation rates and related quitting behaviours at six months post-discharge.

The intervention group received:

- two smoking cessation treatments from research staff in addition to standard hospital smoking cessation care
- self-help material tailored to smokers with a mental illness
- a brief 10 to 15 minute motivational interview
- a study-supplied sample pack of NRT that included nicotine patches, inhalator with cartridges, gum and lozenges, and instructions for NRT use (unless NRT was medically contraindicated)
- four months of tailored telephone behavioural smoking counselling support (a minimum of 11 contacts) following discharge from hospital, initially weekly and later fortnightly – calls were systematically monitored by a mental health clinician with experience in motivational interviewing
- an additional 12 weeks of free NRT following telephone support calls
- encouragement to utilise quit line services, and referrals sent to a quit line service with the person's consent.

Community mental health clinicians and/or GPs were notified of the person's involvement in the study as part of standard hospital discharge information, and asked to encourage use of the cessation supports provided.

The intervention supported previous studies which have suggested a dose-response relationship between the amount of the intervention received by the person, and the likelihood of 7-day point prevalence at six months post-discharge. It also resulted in reduced daily cigarette consumption and increased quit attempts, which the authors note has been shown to increase the subsequent likelihood of successful cessation.

In another recent Australian trial (Baker et al., 2015), 235 participants living with psychotic disorders, were randomised to receive NRT plus either a lifestyle intervention delivered over nine months, or a telephone-delivered intervention.

Baker and colleagues found significant reductions across the 36-month follow-up period in both 10-year CVD risk (most strongly during the intervention phase) and smoking, for both interventions and with minimal differences between conditions.

However, nearly 60 per cent of participants did not achieve a 50 per cent or greater reduction in smoking at any point following treatment. While noting the importance of addressing social determinants such as financial and housing security in sustaining the positive results of such programmes, the authors concluded that “smoking cessation support should be accessible over the longer term, and at least continue actively until abstinence is achieved”, and given the success of the telephone support intervention, that quit lines “should consider training their available workforce to support smoking cessation in people with psychosis” (Baker et al., 2015 p.12).

A review of 100 randomly selected phone apps (out of 766 found) for smoking cessation in smokers with psychosis (Ferron et al., 2017) was not encouraging. Most of the chosen apps scored poorly in terms of adherence to a US clinical practice guideline for smoking cessation, and smokers with psychotic disorders who evaluated the top nine apps identified three common usability problems: text-dense content, abstract symbols on the homepage, and subtle directions to edit features. The authors concluded that future app content for people with psychosis should provide:

- 1) motivational enhancement exercises and information,
- 2) recommendations about smoking cessation medications and other relevant support, and
- 3) information and instruction on how to cope with withdrawal and urges to smoke.

(Ferron et al., 2017).

Discussion

The evidence summarised in this report includes findings from a wide range of perspectives, and confirms previous research about the serious implications of physical illness faced by people with mental health conditions and addiction; “a global scandal” (Laurance, 2013). The definition of this problem has been extensively researched and described. There is less research on the solutions, however there is certainly sufficient evidence to inform the delivery of a comprehensive range of interventions, and actions at multiple levels, which supports the value of the collaborative approach being taken by Equally Well (see *Appendix A*).

The research summarised in this report also enables the identification of priorities for continuous quality improvement within the health sector, as follows:

- resourcing of service user (peer) leadership and participation in the planning and delivery of physical health initiatives across primary care and mental health and addiction services
- improved metabolic screening and monitoring within mental health and addiction services
- improved communications between mental health and addiction services and primary care
- improved mental health and addiction service user access to primary care
- adherence to clinical guidelines for psychotropic prescribing (particularly in relation to recovery-focused practice, and the minimisation of polypharmacy) and the management of physical wellbeing among people with mental health conditions and addiction
- improved risk assessment and management of cardiovascular disease, cancer screening and access to treatment, for people who are in contact with mental health and addiction services
- workforce development planning to support increased capacity and competency in the delivery of interventions to improve physical health among people with mental health conditions and addiction.

New qualitative studies investigating the experience of mental health service users vividly illustrate the personal cost of the ‘global scandal’. The resulting picture is complex and multidimensional.

Overall, the qualitative studies are both distressing and inspiring. For example, there is a dogged determination and good humour shown by many (Australian) study participants, who describe experiences of a seemingly unresponsive primary healthcare service and their strategies for getting attention. These strategies will be familiar to many, and include pre-appointment Google searches to find the right language to describe their problems so that doctors would listen, and writing lists of problems and prioritising them so they could be realistically addressed in the short timeframe available (Ewart et al., 2016).

Together with the data from systematic reviews and single New Zealand studies examining health outcomes among people with mental health conditions and addiction, the qualitative studies underline the importance of the shift to more responsive, recovery-oriented services across the

health sector. It is encouraging that many participants in the qualitative research also describe positive experiences consistent with this re-orientation.

The qualitative feedback reflects a growing awareness among health professionals of the need to provide useful and important information to those people who are most impacted by mental health conditions and addiction, and to include them in decision-making about their own and their family members' futures, especially where medication is a factor. This is clearly signalled in recent clinical guidelines and policy statements from professional peak bodies for psychiatry, general practice and nursing, in New Zealand and internationally. Updated clinical guidance in this area must be put into practice across the sector as a priority.

As noted in the previous review, there is a very large research base going back decades which has examined and defined the extent of the problem (Te Pou o te Whakaaro Nui, 2014). Research published since 2013 confirms what was already well-established about the relatively poor physical health outcomes of people with mental health conditions and addiction and their general population counterparts, with some evidence that the inequities are widening. This is partly due to increasing life expectancy in the general populations of many countries. Research summarised in this review indicates that the reasons for widening inequities are also likely to include:

- structural socioeconomic factors such as widening income inequalities in OECD countries, which has been demonstrated to increase the prevalence of mental disorders including schizophrenia
- a range of social and economic challenges experienced by individuals diagnosed with serious mental health conditions and addiction: such as social exclusion and stigma, loss of employment, lack of quality accommodation, and homelessness
- reduced support for people living with SMI in the community, following the 2008 financial crash and consequent austerity policies which have impacted particularly heavily on those with SMI living in the community
- very high rates of tobacco smoking compared with the general population in many countries smoking has historically been actively encouraged within mental health services and only recently addressed
- an international trend of increased prescribing of second generation psychotropic medications, many of which are known to have potentially serious physical health impacts, especially where multiple drugs are prescribed (polypharmacy)
- increasing expectations of primary care in managing mental health problems, often with inadequate resourcing, workforce development, and poor co-ordination between primary and secondary mental health services. This can result in people not being properly monitored for metabolic changes associated with mental health problems, particularly when medication is involved.

There is good emerging evidence on the short-term impact of behavioural change interventions, with findings supporting their use at an early stage in psychotic disorders. However, there is a need

for research showing longer-term outcomes for most behavioural health interventions. Interesting data is beginning to emerge on the acceptability and effectiveness of some e-mental health interventions, particularly smartphone applications, among people with mental health conditions and addiction. However, more robust evidence is needed for these and other individual change interventions, especially in relation to sustained behavioural change.

In summary, the physical health of people with mental health conditions and addiction must remain a priority. We are heading in the right direction but there is a great deal more to do if we are to reduce the disparities outlined in this report.

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Appendix A: New Zealand initiatives

This appendix contains New Zealand-based examples of initiatives which have been selected for their relevance to Equally Well, and because they have been documented either online or in publicly available reports.

There are many other examples of good practice being undertaken by members of the Equally Well collaborative. Some of these have been summarised in the previous report (Te Pou o te Whakaaro Nui, 2014) following the initial ‘call for evidence’ during 2013, or published on the Equally Well pages of the Te Pou o te Whakaaro Nui website.

Equally Well collaborative framework (2015)

Since the launch of Equally Well in November 2014, several new publications have become available in response to inequity issues raised for people with mental health conditions and addiction, here and internationally.

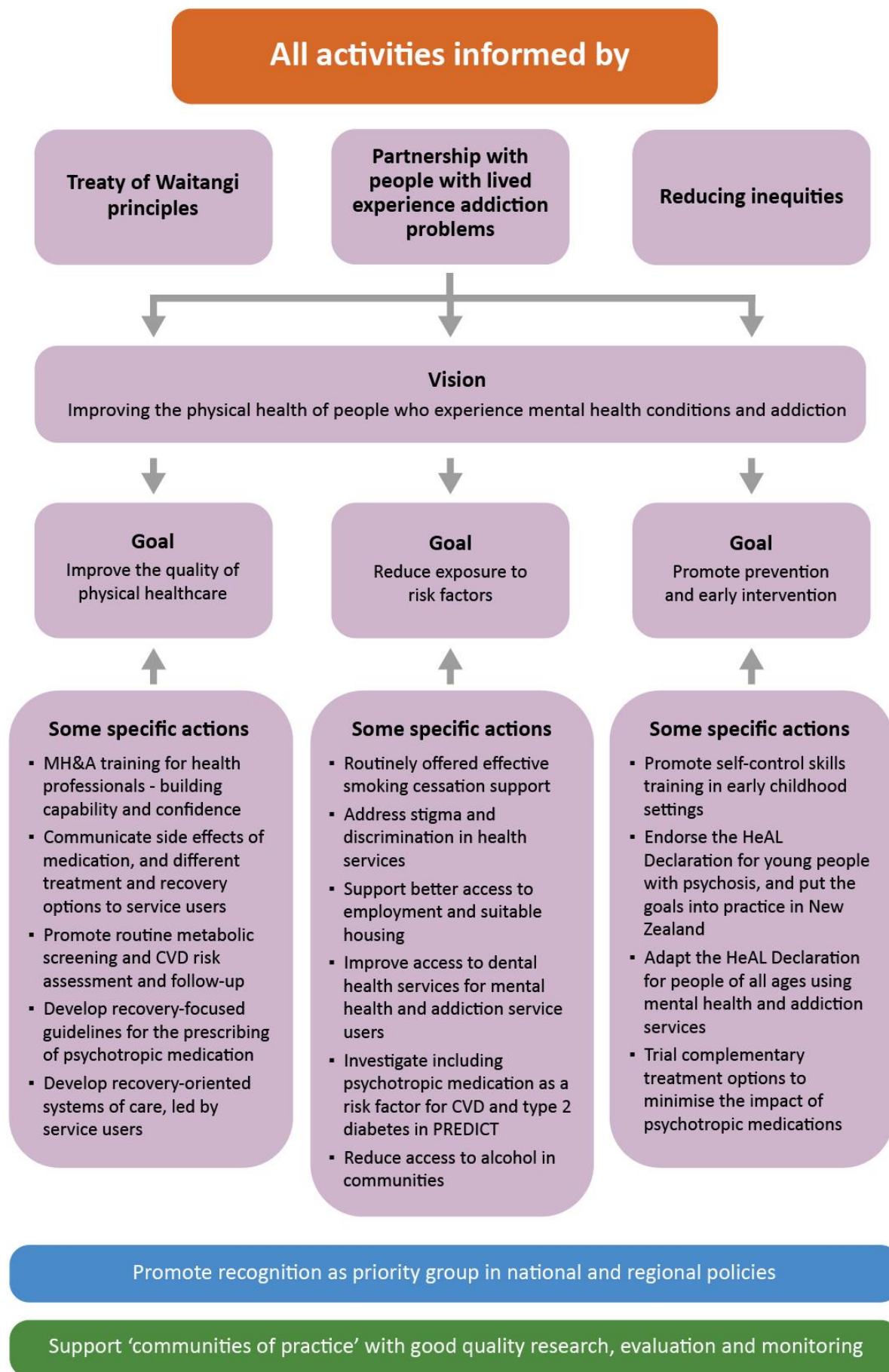
In addition, progress has been made at a service level by DHBs and PHOs around the country, in improving integration between primary and secondary services. Examples of these have been documented and information shared on the Te Pou o te Whakaaro Nui website and through online (Loomio) discussions.

The following framework²⁰ was developed by the Te Pou o te Whakaaro Nui backbone group in 2015 and provides the basis of the framework for action, and an overview of possible activities.

Underpinning principles of the collaborative

- Partnership between health professionals, people with lived experience of mental illness and addiction and their families and whānau.
- Stigma and discrimination will be addressed wherever it occurs.
- Where possible good quality research evidence will inform activities, and improve services.
- Sustainable changes will be made by incorporating new approaches into business as usual.
- People who experience mental health conditions and addiction have a right to be well-informed about treatment options and wellness opportunities.
- Different perspectives and world views are accepted and welcomed.
- Quality of life is as important as extending lives.

²⁰ Retrieved from <https://www.tepou.co.nz/resources/equally-well-framework-for-collaborative-action/580> on 14 September 2017.



Royal Australian and New Zealand College of Psychiatry

In recent years, the Royal Australian and New Zealand College of Psychiatry (RANZCP) has published a series of challenging discussion papers on the need for psychiatry and the pharmaceutical industry to address the physical health impact of medical treatment for mental health problems. The RANZCP has also published two new comprehensive clinical guidelines: the first on managing mood disorders (Malhi et al., 2015), and the second on managing psychosis (Galletly et al., 2016). These both include a focus on physical health.

Most recently, the RANZCP published a consensus statement for the treatment, management and monitoring of the physical health of people with an enduring psychotic illness (Lambert, Reavley, Jorm & Oakley Browne, 2017).

In recognition of the need to develop guidance for health professionals on core constituents of integrated healthcare, the approach was taken of drawing on clinical, consumer and family members/carers expertise, using a systematic approach to reduce the risk of bias. The Delphi method was used to “involve decision-makers in all relevant sectors and to view practice-based evidence as equally relevant as evidence-based practice”. The approach was modified for the purpose, noting:

Consumers and carers were included specifically for their expertise in engagement and collaborative partnerships with patients, and in what clinicians should know about the physical health problems of people with enduring psychotic illness. They were not asked to contribute to areas of the expert consensus statement requiring clinical expertise (Lambert et al., 2017, p. 324).

A literature review was also undertaken to create an initial questionnaire so that expert panellists would have a comprehensive ‘menu’ of evidence-informed strategies to engage with.

A total of 386 strategies were endorsed and these were written into a consensus statement which is available to organisations for informing their policies and practice. The following is a summary of the seven-page statement, using text from the statement itself.

Health professionals should recognise the factors affecting the health and well-being of people with enduring psychotic illness

People with enduring psychotic illness are more likely to smoke than those without the illness, more likely to have a poor diet and be overweight or obese, have poor dental health, and are at increased risk of osteoporosis and fractures.

Importance of collaboration, partnership and support

- Mental health services and health professionals should form collaborations with a range of services and providers.
- Health professionals should work in partnership with people with enduring psychotic illness, families and carers.

- Mental health professionals should provide support for the person with enduring psychotic illness, their families and carers to manage the person's physical and mental health. This support should include provision of high-quality education about physical health, lifestyle and appropriate management options.

All mental health service managers and health professionals should play a role

All mental health service managers and health professionals should understand their role in the screening, detection, management and follow-up of the cardiometabolic health of people with enduring psychotic illness. They should advocate for appropriate resources to undertake their role.

Role of mental health service managers - mental health service managers should ensure that there is a sustainable screening, detection, management and follow-up system for all people with enduring psychotic illness in their service. They should evaluate the effectiveness of programmes they have set up. Mental health service managers, planners and funders should develop and implement key performance indicators (KPIs) for monitoring the care provision and physical health status of people with enduring psychotic illness.

Mental health service managers should increase mental health staff competencies in physical health screening in people with enduring psychotic illness.

Role of psychiatrists - psychiatrists should be responsible for ensuring that the screening, detection, formulation and any associated follow-up procedures are carried out. This should be undertaken from the first episode of psychosis. Psychiatrists should provide clinical oversight, coordinate and ensure that the appropriate medical tests and examinations are interpreted, appropriate action is taken and a follow-up medical management plan is formulated and implemented. Psychiatrists should ensure that every person with enduring psychotic illness being discharged from inpatient care has a comprehensive physical and mental healthcare plan. This healthcare plan should clearly delineate which healthcare professional is responsible for each aspect of care. The plan should be communicated to community health services, primary care providers and families and carers.

Role of mental health nurses and nurse practitioners - mental health nurses should be trained to carry out standardised physical health interviews with people with enduring psychotic illness. Mental health nurses should undertake the screening, detection, treatment and management, and follow-up of cardiometabolic disorders in people with enduring psychotic illness. They should measure the height, weight and waist circumference, blood pressure and random blood glucose of people with enduring psychotic illness. They should also provide education and training to mental health professionals, people with enduring psychotic illness, and their families and carers. Advanced nurse practitioners should order appropriate metabolic screening tests for people with enduring psychotic illness.

Additional roles of health professionals and mental health professionals - health professionals and mental health professionals should encourage people with enduring psychotic illness to participate in healthy lifestyle group activities. Individuals should be assessed and assisted to attend appropriate

group-based physical activity programmes or individual physical activity programmes, depending on their need.

Role of NGOs - where available, people with enduring psychotic illness should be referred to NGOs specialising in the rehabilitation and support of people with a mental illness to improve their lifestyle. Appropriate professionals and support workers within these services include dietitians, exercise physiologists, occupational therapists and support workers.

All health professionals should participate in the screening, detection, management and follow-up of people with enduring psychotic illness.

Requirements for screening and detection - mental health services should ensure that a comprehensive assessment of the comorbid physical health status of people with enduring psychotic illness is performed. All health professionals involved in the person's care, the person themselves and their families and carers should play a role in ensuring that the appropriate medical tests, examinations and salient risk factors for chronic disease are interpreted and appropriate action is taken.

Development of a management plan - psychiatrists should ensure that a comprehensive management plan is developed based on the results of the initial assessment. The following people should play a role in ensuring that an appropriate medical management plan is implemented: psychiatrist, general practitioner, registrar, nurse, case manager, people with enduring psychotic illness and their families and carers.

Follow-up assessments - psychiatrists should ensure that follow-up assessments are carried out every 3–6 months and at any change of psychotropic medications, or when the person presents with new signs and symptoms relating to cardiometabolic risks.

Service managers and clinical leaders should develop policies and procedures for integrated care - mental health service managers should work with senior clinical leaders to develop integrated clinical care policies and procedures that are directed specifically towards the physical health needs of people with enduring psychotic illness.

The consensus statement includes checklists for the initial assessment, the equipment and support needed, and follow-up assessment.

Primary care initiatives

Royal New Zealand College of General Practitioners

The Royal New Zealand College of GPs produced an Equally Well policy brief²¹ for GPs, published on their website in May 2017. It provides excellent information and guidance for GPs in managing the physical health of people living with stable severe mental illness (SMI) who are increasingly being managed in primary care. People with less severe mental health conditions and addiction are commonly seen in general practice, and their needs are also addressed in the policy brief.

The phenomenon of diagnostic overshadowing, whereby physical health problems may be misattributed to the person's mental health condition, is discussed, and the role of GPs working with specialist mental health clinicians, NGO providers and other services involved in managing physical health problems, is clearly articulated.

Closing the Loop

New Zealand PHOs developed a planning document addressing the role of primary care in responding to mental health conditions and addiction during 2016. *Closing the Loop* was a discussion paper written on behalf of four of the larger PHOs: ProCare Health, Compass Health, Pinnacle Midlands Health Network, and Pegasus Health (Network 4). The Network 4 PHOs are together responsible for the primary care needs of almost two million New Zealanders.

Following on from their initial discussion paper circulated widely for feedback in late 2015, a series of consultation workshops were held and the feedback incorporated into a comprehensive framework for primary mental health, incorporating both primary care, NGO and mental health and addiction service perspectives (O'Connell et al, 2016). The framework is aligned with the revised New Zealand Health Strategy (Ministry of Health, 2015a). It is encouraging to note the emphasis placed on improving the physical health of people with mental health conditions and addiction throughout this document.

Closing the Loop provides a series of case studies of integration projects around the country, painting a picture of quite significant progress being made in recent years. However, it is also noted that "despite progress over the last decade, the development of mental health services in primary care has been ad hoc and patchy without the leveraging of the potential scale" (O'Connell et al., 2016, p. 8). The first of 15 recommendations is "the development of a nationally consistent set of service specifications for primary mental health support underpinned by local service level

²¹ Retrieved 6 July 2017 from http://www.rnzcgp.org.nz/RNZCGP/Publications/Policy_briefs.aspx

agreements between agencies and robust commissioning structures – national standards, local solutions” (O’Connell et al., 2016, p. 40).

This report puts a strong argument for properly resourcing a range of primary mental health services as a cost-effective strategy for reducing pressure on mental health and addiction services.

Since publication of *Closing the Loop* in August 2016, Network 4 led the development of a proposal for implementation of a new model of primary mental care health designed to improve outcomes for people with mild to moderate mental health needs.²²

Network 4, in collaboration with mental health and addiction NGOs, proposed the establishment of eight demonstration sites across New Zealand offering a range of services including extended talking therapies, self-management support and social care, available through general practice and integrated with hospital services and the National Telehealth Service. The model of care aims to deliver real benefit for New Zealanders in terms of both physical and mental health, as well as social functioning and wider family impact. It will help to reduce demand on secondary care services and enable integration of services at a local level.

The demonstration sites would initially focus on high needs groups and act as proof of concept over a two-year period so that the impact and sustainability of the proposed model can be evaluated ahead of wider roll-out.

Discussions are continuing with the Ministry of Health and DHBs regarding funding options for the demonstration sites. In the meantime, the four PHOs are committed to developing the model of care in their localities. In Auckland, ProCare is supporting implementation of the model in five sites.

Kia Kaha: Manage better, feel stronger

This collaborative project was developed by a professional-peer team to create a model of care in the primary care setting, to address the needs of people living with two or more long-term conditions who require significant levels of hospital-based care²³. It was launched in 2013 by Counties Manukau Health, the DHB that serves South Auckland and Franklin.

During 2013/2014, *Kia Kaha* developed and tested options for self-management education, health psychology, peer support and care co-ordination. The model of care is based on the principles of engagement, patient activation and connection between patient and service. The *Kia Kaha* team

²² Retrieved from <http://www.closingtheloop.net.nz/#latest-news> on 12 July, 2017.

²³ Kia Kaha health system improvement guide retrieved from <http://koawatea.co.nz/the-kia-kaha-team-publish-a-health-system-improvement-guide/> on 12 July, 2017.

includes two health psychologists, a consultant psychiatrist, and two peer support specialists. A project manager and improvement advisor assisted with planning and implementation.

The Breakthrough Series (BTS)²⁴ approach was used to train and support participating teams in improvement methodology and collaborative working. The BTS was structured as four learning sessions interspersed with action periods.

Kia Kaha aimed to achieve a 25 per cent reduction in hospital and general practice use for patients with two or more long-term conditions who were enrolled in the programme.

Related aims were:

- to work towards an 'activated patient in an activated service'
- to give our patients choices and to hear their voices
- to create a change package for patients who have long-term conditions that will be effective, empowering and patient-centred, and can be duplicated in other services and settings.

A change package was developed, based on three key drivers: engagement, activation and connection. Change ideas for each driver were developed and tested using the Model for Improvement (Langley et al., 2009).

Engagement

- Home-based, peer-supported assessment.

Activation

- Individualised peer support.
- Provision of evidence-based self-management support.
- Provision of psychological support.

Connection

- Case co-ordination.
- Collaborative approach.

In the first year of *Kia Kaha*, there was a 41 per cent drop in visits to emergency care among the patient cohort. In addition, engagement rates were increased from 50 per cent to 95 per cent with identified patients, by using a flexible, professional-peer assessment process called 'Patient Choice, Patient Voice'. This encouraging start justified further adaption and testing of the original change package, and led to the project being continued.

²⁴ Retrieved from <http://spectrum.diabetesjournals.org/content/17/2/97> on 12 July, 2017.

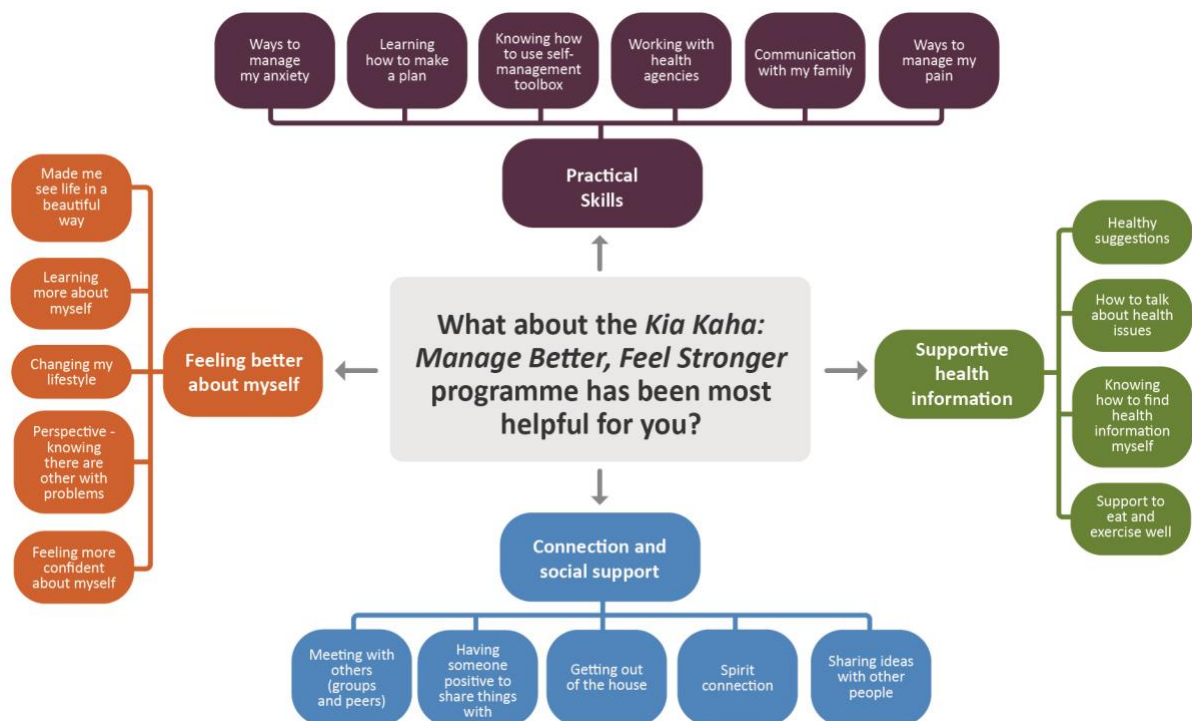


Figure 3: Themes from participant feedback (*Kia Kaha* health system improvement guide, p. 24)

Peer Support

The inclusion of individualised peer support in the *Kia Kaha* model is of particular interest to Equally Well. Peer support workers were trained in a mental health setting as peer support specialists (mental health peer support training). They were also trained in the Chronic Disease Self-Management Program (CDSMP)²⁵ to support people to manage both physical and mental long term conditions. This training was useful in supporting patients to become more actively involved in their wellness and health.

Peers and health psychologists planned together to provide self-management support, a bridge between the patient and health professionals, help with navigation of the healthcare system, advocacy with other services when required, emotional support, and continuity. Peers with language and cultural expertise were included in the team to meet the needs of a diverse community. The focus was on giving support, increasing knowledge about a health condition, teaching self-management skills, and instilling confidence. The support can be provided over the phone, in the patient's home or in the healthcare setting.

Concerns about safety issues, appropriate role boundaries, and whether or not the support was acceptable and helpful to patients were addressed through weekly case reviews with the peers

²⁵ Chronic Disease Self-Management Program (CDSMP). Available from www.patienteducation.stanford.edu.

about their work. The connection within this team proved to be a key element in creating a sustainable offer of peer support.

Primary Options for Mental Health and Addictions in Tairāwhiti

A new service to improve access to primary care for people discharged from mental health and addiction services, was approved in February 2015 by the Tairāwhiti Community and Public Health Advisory Committee (CPHAC), to fund provision of:

- free primary healthcare to people with stable and enduring mental illness or addiction who have been discharged from specialist mental health and addiction services (transition package)
- in-practice consult liaison with a psychiatrist
- physical healthcare for those under the care of specialist mental health and addiction services who also require community based support services (physical care package).

Known as Primary Options for Mental Health and Addictions (POMHA), the service was evaluated using process evaluation methods, and overseen by a working group including representatives from Pinnacle, Turanga Health, Ngati Porou Hauora, National Hauora Coalition, Te Kupenga Net Trust, Te Pou o te Whakaaro Nui, and Tairāwhiti DHB (funding and planning, plus mental health and addiction services).

The following table from the evaluation report, details the approved packages.

Table 5: Approved packages of care for Primary Options for Mental Health and Addictions

Service item	Description	Potential volume
Transition package	Up to 4 extended GP consults/year Up to 4 GP consults/year 12 – 26 PN consults/year consults	33 service users
In-practice consult liaison	30 minutes with psychiatrist	Up to 4 hours/year for 35 GPs
Physical care package	Up to 6 GP consults/year	250 service users

POMHA got underway on 1 July 2015 following a complex planning and design phase, with goals to:

- build capacity and capability within primary care to manage people with chronic and mild to moderate mental health needs
- ensure specialist resources in secondary care are used appropriately and concentrate on providing specialist care for people with complex moderate to severe mental health needs who require specialist clinical oversight.

The evaluation notes that “progress was slow until the stakeholder group grew to include Midland Health Network (now Pinnacle), Ngati Porou Hauora and National Hauora Coalition as local PHOs, as well as general practice and providers (including a Consumer Leader) from the broader mental health and addictions sector”.

For the 12 months ending 30 June 2016, the evaluation found that 49 per cent of eligible people had consulted their GP under POMHA, with a total of 206 GP visits and 40 practice nurse visits. Only five tangata whaiora exceeded the set limit of GP visit.

The process evaluation revealed issues in four key areas – level of administrative support required to support POMHA, challenges to the eligibility criteria, lack of communication to key groups, and concerns from individual practices.

Over the year, there were fewer than five shared consultations with both the treating GP and psychiatrist in attendance. Hauora Tairāwhiti did not receive any requests from practices for in-practice training.

Nearly all respondents (92 per cent) reported that POMHA had made a difference – tangata whaiora talked about being able to discuss their health concerns with their GP, gaining some ‘peace of mind’, being able to see their GP when they’re sick, and not having to consider whether the benefit would cover the cost. Commentary from tangata whaiora included the following:

“I can go (to the doctors) when I’m sick and don’t have to worry about how to pay.”

“I go before I get worse.”

“Saves me good money – being on a benefit, it’s very difficult.”

“Use the GP more often – especially when you need to.”

Integrated employment support in primary care

Evidence-based supported employment (EBSE), also known as individual placement and support (IPS), is an intervention for supporting people with mental health issues to return to and/or stay in work. The evidence for IPS was generated from delivery in secondary mental health and addiction service settings, but research shows it can also be effective in other settings, including primary care and with different population groups (Drake & Bond, 2017).

IPS is integrated with a person’s mental health support. The benefits of integration include:

- an earlier referral to the employment services
- joint planning of treatment and vocational goals
- health professionals initiate more conversations about employment directly with the service user.

Under IPS competitive paid employment is the key goal, as opposed to training or lengthy ready-to-work preparation. People are supported to look for and take up jobs within weeks of making contact with employment consultants. Employment support programmes have been in place for more than five years now in a limited number of New Zealand primary care settings, with evaluations showing promising examples of good practice (Te Pou o te Whakaaro Nui, 2013).

Key findings from evaluations include:

- Integrating employment support services into general practices can effectively support people with mental health conditions to return to work.
- The service is valued by GPs and provides an evidence-based intervention as an alternative to signing people off work.
- Clients and GPs reported that clients' self-reported hopefulness, confidence and motivation increased as a result of accessing integrated employment services.
- Twenty-nine people found employment and eleven started accredited study in the first eighteen months of the Waikato service. Five people found employment and four started accredited study in the first nine months of the Wellington service.
- Cross-agency and cross-sector partnerships can address the system barriers and inequalities that people with mental health conditions face in relation to returning to and staying in employment.
- Agency and sector concerns around information sharing and privacy and consent need to be addressed to improve service delivery.
- Employment and mental health is a whole-of-government issue. To implement and sustain these employment support programmes dedicated funding from both health and welfare is needed.²⁶

In 2012, NGO Workwise partnered with Compass Health PHO to implement an integrated employment support programme with two volunteer practices in Wellington (Newtown and Waitangirua). A process evaluation of the Wellington programme was completed and demonstrated that GPs, Workwise and Work and Income were able to address the system barriers experienced by clients (Te Pou o te Whakaaro Nui, 2013). The role of the employment consultant (based in Workwise) was to help the client navigate the systems and facilitate communication between GPs and Work and Income.

Of the 34 clients accepted onto the programme, five were able to find employment between February and July 2013, and six were enrolled in accredited study courses during this time. GPs commented that after referring people to Workwise, they noticed that participants gained confidence and motivation in managing their health issues.

²⁶ Material extracted on 19 July from <https://www.tepou.co.nz/resources/evaluating-integrated-employment-support-in-primary-care/433>.

Waitemata DHB cardio-metabolic screening

Waitemata DHB developed a project to improve performance in cardio-metabolic screening, led by a half-time project manager. An initial stocktake found that screening numbers had been declining in the two to three years prior. This was disappointing, since draft policy had been in place since 2005 and screening started around then. The policy was finalised and an implementation plan was put in place. This involved screening of all adults admitted to the service, on entry for cardiovascular disease (CVD) and metabolic risk (if they had not been screened during the previous 12 months in primary care). As a result of the policy being implemented, the number of screenings over 12 months doubled from the previous year. However, while many service users have elements of screening completed, only about 10 per cent of service users are being screened at Waitemata.

The policy provides a clear summary of best practice including visuals explaining the screening pathways. It's complemented by related guidance all in the same place on Waitemata DHB's intranet, such as prescribing psychotropic medication and use of metformin (for pre-diabetes). Guidance and professional support has also been made available for mental health staff on how to interpret and respond to electro-cardiograms (ECGs). Training for 135 nurses has been undertaken, with plans for additional workforce development under way.

Appendix B: International initiatives

This appendix provides a small selection of recent examples of international collaborative initiatives and resources that are clearly aligned with the purpose and principles of Equally Well. International policy work and intervention frameworks summarised in this report support the priorities for policy, practice and research previously identified by the Equally Well collaborative, with some variations in approach.

Improving the physical health of adults with severe mental illness: essential actions – Academy of Medical Royal Colleges

A large number of organisations contributed to this 2016 report, including the Royal Colleges of General Practitioners, Nursing, Pathologists, Psychiatrists, Physicians, the Royal Pharmaceutical Society, and Public Health England – an indication of the level of professional agreement about the importance of this issue in the UK.

It sets out what has been agreed by health professionals to be the essential actions to improve the physical health of adults with SMI across the NHS. The report makes practical recommendations for changes that will help adults with SMI to receive the same standards of physical healthcare as the general population and reduce the risk of premature death.

The report makes eight recommendations to key bodies and inspectorates. These have been included below (as summarised in the report) because of similarities between the UK and NZ health systems, relative to other countries. There is a great deal more detail in the body of the report.²⁷

1. National steering group

1.1 A new national steering group should be formed to lead and link key stakeholders with experts from the healthcare professions to enable key areas of physical health to be addressed and monitored at a national level.

2. Royal Colleges and Societies

2.1 The Royal Colleges of General Practitioners, Pathologists, Physicians, Psychiatrists and Nursing and the Royal Pharmaceutical Society should work with the recommended new national steering group to:

- assist with the implementation of national standards for improving the physical healthcare of people with SMI

²⁷ Retrieved on 11 July 2017, from <http://www.rcpsych.ac.uk/usefulresources/publications/collegereports/op/op100.aspx>

- set standards for training of their members so that the standards set by national standard setting bodies can be implemented
- advocate for the reduction in disparity of physical health outcomes for people with SMI.

2.2 Each College and Society should be encouraged to appoint a lead clinician to coordinate the above activities and work with the national steering group.

3. Regulatory bodies and inspectorates

3.1 Regulatory bodies for the healthcare professions and inspectorate of health services should align their objectives with those of the national steering group, and the Royal Colleges and Societies in relation to the priorities for physical healthcare improvements.

3.2 Regulatory bodies and the inspectorate should ensure that, in mental healthcare settings:

- standards of physical healthcare for people with SMI are the same as for people in the general population (eg access to national standards for health screening, immunisation, physiotherapy, dental care)
- inspection criteria are based on national standards for physical healthcare, working in liaison with the national steering group and other national bodies (eg Royal Colleges, National Institute for Health and Care Excellence (NICE), Scottish Intercollegiate Guidelines Network (SIGN))
- participation in national audits takes place (eg National Diabetes Audit, National Audit of Schizophrenia)
- IT software for these national audits is embedded in the electronic patient clinical records, as it is in primary-care IT systems
- the same clinical outcomes are achieved as in other fields of medicine (eg clinical outcomes for cardiovascular disease and respiratory disease in the Quality and Outcome Framework.

4. Commissioners of healthcare services

4.1 Commissioners should set clear expectations for the provision of physical health services in mental healthcare settings so that people with SMI are not disadvantaged in their ability to access physical health services compared to the general population.

4.2 Commissioners should require mental healthcare services to have a named individual responsible for nurturing a culture that enables continuous quality improvement of physical healthcare services, by:

- encouraging direct-care staff to identify areas for improvement in standards of physical healthcare
- using existing or new resources for continuous service improvement
- providing training on quality improvement strategies and the tools that can be used to take a multidisciplinary and co-production approach to working with patients and carers to achieve continuous quality improvement
- providing managerial support to implement quality improvement in clinical practice.

5. Providers of physical healthcare services

5.1 Each health service used by people with SMI should:

- develop a physical health strategy that is appropriate for people with SMI that has been approved by the board of the acute hospital, mental health service, general medical practice or GP federation, and undertake to review this strategy annually
- appoint a lead clinician as a board member with responsibility for the implementation of physical health strategy and the development of clear measurable outcomes (eg adherence to NICE or SIGN guidance)
- provide accessible services for people with SMI as required to meet their needs (this access should be routinely monitored)
- monitor and address the health outcomes of people with SMI, as appropriate.

5.2 Mental health services should:

- undertake regular assessments of the physical health needs of people with SMI
- use effective IT systems to improve standards of physical healthcare
- employ medical, nursing, pharmacy and other healthcare staff with the necessary skills and knowledge to oversee and deliver appropriate physical healthcare
- use nationally available data on the mortality of people with SMI in the local area and/or local data to develop a strategy to address the causes of death of people with SMI
- ensure essential training for clinical staff is provided on:
 - recognition and first response to acute physical illness
 - resuscitation
 - management of long-term physical conditions
- ensure effective communication systems about physical health topics are in place for those with SMI and carers
- facilitate collaborative working between patients, carers and health professionals.

5.3 Acute hospital services should:

- ensure liaison psychiatry services are available in acute hospitals to support inpatients with SMI
- Ensure effective communication systems are in place for the transfer of patients between services.

5.4 General medical practice should:

- ensure that NICE or SIGN guidelines, which make evidence-based recommendations for the physical health of people with SMI, are included in whatever local quality framework is appropriate for that location
- monitor and address compliance with guidelines.

6. Information technology

6.1 IT should be used for:

- electronic patient records
- electronic prescribing and medicine administration systems
- information sharing and transfer of clinical information, including rapid access to laboratory test results, discharge summaries, and information about medication and allergies
- assisting with clinical practice (eg algorithms for differential diagnoses, prompts for reviews and assessments), as well as information about current health problems, immunisation status and medical history
- helping clinicians to meet agreed physical healthcare standards for SMI (eg templates for physical health reviews)
- risk management (eg potential risks of drug interactions, known allergies or significant physical conditions)
- facilitating training in clinical skills and procedures
- providing information for patients and carers
- enabling data collection for audit.

7. Physical healthcare

7.1 Mental healthcare providers should ensure that:

- quality improvement techniques are used to implement agreed standards of physical healthcare on a continuous basis
- basic medical equipment is provided
- the National Early Warning Score (NEWS) system is available and used in mental healthcare settings by staff trained in its use to enable the early recognition of acute illness and appropriate action to be taken in a timely way
- communication systems are used for handover and medical emergencies, such as the SBAR system (Situation, Background, Assessment, Recommendation)
- a carers' forum or organisation is supported, formed or liaised with in order to facilitate information sharing and communication about physical health matters.
- Acute service providers should:
 - arrange for a liaison psychiatry service to be provided so people with SMI can access an appropriate level of psychiatric care during their hospital stay (Joint Commissioning Panel for Mental Health, 2013)
 - use standards for commissioning liaison psychiatry services for acute hospitals that have been prepared by the Joint Commissioning Panel for Mental Health (Joint Commissioning Panel for Mental Health, 2013).

8. Training of healthcare professionals

8.1 National bodies that regulate healthcare professionals should take heed of the poor physical health of people with SMI, and review the training requirements of their healthcare profession/s to ensure their training standards and curricula will prepare their students and trainees to meet the roles expected of them, in any or all of the physical healthcare activities listed in Recommendation 8.2.

8.2 Physical healthcare activities that healthcare professionals should be trained in:

- Assessment of physical health: assess the physical health of patients on admission and at appropriate intervals thereafter, including the assessment for the presence or absence of illness, injury or disability, and any of the following – receiving a medical history, making a functional enquiry, undertaking a physical examination, arranging blood tests and other investigations, as necessary.
- Investigation for underlying physical causes: investigate for the presence of an underlying physical cause for the mental condition of the patient, and when appropriate, form a differential diagnosis, as a basis for further investigation or referral to other health professionals.
- Monitoring of physical health: monitor the physical health of the patient on the basis of clinical need and national standards of physical healthcare.
- Recognition of acute illness (the ‘deteriorating patient’): this includes measuring physiological parameters, using NEWS system, making the ‘first response’ to an acute illness, and using effective communication and resuscitation techniques.
- Out-of-hours medical care: where inpatient services require out-of-hours medical care to be delivered by a psychiatrist, they and certain members of the clinical team need the skills and competencies to make a diagnosis (or provisional diagnosis), to treat and/or refer the patient to acute services, while also recognising that the patient may have co-morbidities and be vulnerable for reasons relating to their mental health.
- Management of long-term conditions: monitor and provide treatment for long-term conditions in collaboration with specialists.
- Medicines: be aware of all medicines prescribed for the patient. Be able to work closely with the pharmacist to optimise the use of the medicines and be able to monitor the physical side-effects of psychotropic and other medicines prescribed for physical and mental conditions.
- Referral to others: psychiatrists and other healthcare professionals should know when and how to refer to other health professionals. In particular, be aware of clinical red flag symptoms and signs that should prompt referral to specialists.
- Health promotion and disease prevention: be aware of health promotion and disease prevention strategies, including physical activity, diet, oral health, sexual health and smoking cessation, prevention of falls, immunisation and infection control measures. Be aware of

screening tools for the assessment of physical health risks (eg venous thromboembolism risks, tissue viability, nutritional risk factors and cardiovascular risks).

- Specific health risks: be aware of specific risks in the patient population (eg homeless people and refugees).
- Rehabilitation of patients: facilitate recovery from physical illness or injury for instance by liaison with specialists who provide the services needed by the patient for physical healthcare.

8.3 For trainees in psychiatry, it is recommended that:

- the Royal College of Psychiatrists should engage with the Royal College of Physicians and other Royal Colleges to support the training and examination of key topics (eg recognition of acute physical illness, resuscitation, management of long-term conditions)
- curricula and examinations should include key areas that relate to the physical healthcare of people with SMI.

8.4 For nurses, it is recommended that, in their review of pre-registration nurse training, the Nursing and Midwifery Council:

- review the recommendations above and the activities relating to the physical healthcare of people with SMI in their development of new competencies and skills for the pre-registration training of mental health nurses
- review the 2016 recommendations for training of mental health nurses (Nursing, Midwifery and Allied Health Professions Policy Unit, 2016). In addition to the clinical competencies identified in this report, mental health nurses and practice nurses in primary care may require training to understand their roles and responsibilities in regard to the physical health of people with SMI.

8.5 For pharmacists, it is recommended that they should retain the competencies outlined in the Royal Pharmaceutical Society's *RPS Foundation Pharmacy Framework* and *The RPS Advanced Pharmacy Framework (APF)* (Royal Pharmaceutical Society, 2013, 2014).

Improving the physical health of people with mental health problems: Actions for mental health nurses – NHS England

This report was produced by the Nursing, Midwifery and Allied Health Professions Policy Unit, Department of Health, Public Health England²⁸. It takes a strong health determinants approach, in recognition of:

Overwhelming evidence that addressing lifestyle factors alone will not increase the life expectancy of people with mental health problems. Mental health nurses have an important role in addressing all determinants of health through assessing, referring, delivering and facilitating psychosocial, psychological and physical interventions. Recovery-oriented services and peer-led approaches that address underpinning factors of health inequalities will help individuals to maintain social relationships, access good housing, employment and improve wellbeing and resilience, which will have a major impact on physical and mental health (Department of Health, 2016, p.10).

²⁸ Retrieved on 11 July, 2017, from

http://www.google.co.nz/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiejMyqw4DVAhXKyLwKHU83BLEQFgghMAA&url=http%3A%2F%2Fresearchopen.lsbu.ac.uk%2F611%2F1%2FJRA_Physical_Health_revised.pdf&usg=AFQjCNF5bhl_G2dzwm1J_ecXLOG05e_ZRQ



Figure 4: Interrelated dynamic elements affecting people's physical health (Department of Health, 2016, p.11).

Eight action areas are identified in the mental health nursing framework, as represented in the following diagram.

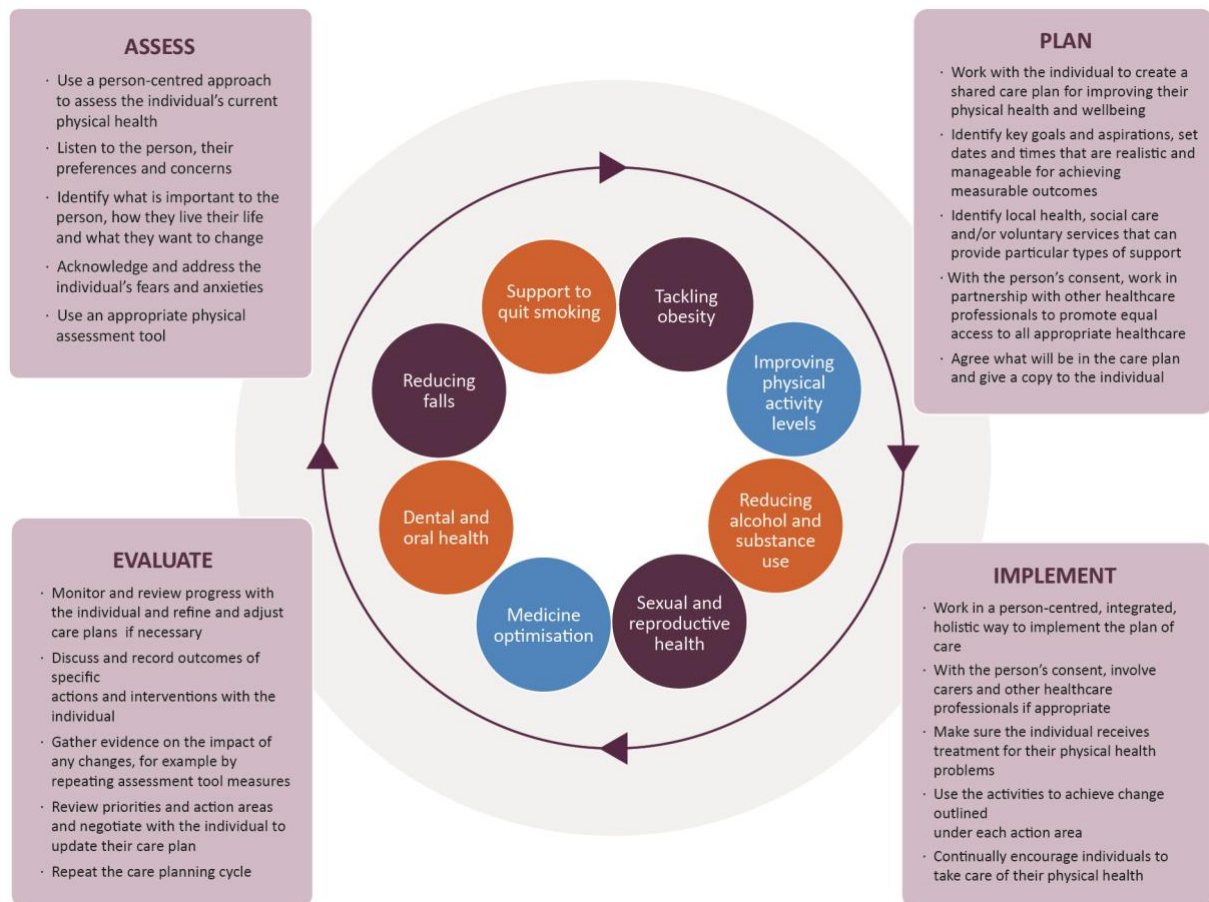


Figure 5: Care planning: exploring the potential for individual change and improving physical health
(Department of Health, 2016, p.17).

Good detail is provided for the mental health nurse role in each of the eight areas, together with examples of good practice already in place, a screening and intervention model for cardiometabolic health, and an integrated physical health pathway model.

The Health Improvement Profile (HIP)

A practical 'evidence-derived' guide has been developed in the UK, to assist healthcare workers in undertaking physical health checks for people with SMI (Hardy, White & Gray, 2015). The authors developed the comprehensive manual in recognition of a lack of training in this area, and staff difficulties in accessing training in the event it is offered, due to clinical workload commitments. The manual provides information about mental illness, treatment options and physical health problems in people with SMI. The health check tool itself is very thorough, covering measurements including body mass index (BMI), waist circumference, and blood pressure; blood tests for liver function, lipids and glucose; screening for various health problems including cancer, oral health, and sexual health; and lifestyle issues such as exercise, sleep and diet. Strategies are outlined for responding to health problems identified in the checks.

The HIP tool was initially evaluated in a cohort of 31 adult community patients in Scotland, using a retrospective documentation audit of case notes for all people where the tool had been used, semi-structured interviews with patients and their secondary care clinicians, and a postal survey of GPs (Shuel et al., 2009). Feedback from service users and professionals was generally very positive, and a range of health problems were able to be addressed as a result of the checks. The tool was easily implemented within clinical practice without the need to reconfigure services and staff roles. It has also been adapted for use in New Zealand, and although we are unaware of any evaluations of its use here, there is good anecdotal feedback from those who have used it, or adapted it for their own settings (Te Pou o te Whakaaro Nui, 2014).

Physical health and mental wellbeing: Evidence guide – Mental Health Commission of New South Wales

This report can be found on the Mental Health Commission of New South Wales website²⁹ and brings together evidence in support of a comprehensive approach to service reform across the state of NSW, to improve the physical health of mental health consumers.

The critical elements of reform are identified as follows:

- An integrated model of physical and mental healthcare implemented in all state mental health services and settings.
 - There is growing evidence that physical health comorbidities 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 healthcare 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.
- Training for peer workers to develop an integrated model of care that will promote good physical health and encourage early intervention.
- 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 healthcare. The platform would serve several purposes:

²⁹ <https://nswmentalhealthcommission.com.au/publications/physical-health-and-mental-wellbeing-an-evidence-guide>

- ensure that policymakers, service managers, clinicians and consumers had access to a robust evidence base to guide strategic priorities and service development
 - inform staff of available, high quality, evidence-based training and education, including online options, and provide resources to support an integrated model of care
 - 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.
- 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.
 - 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 healthcare as the general population.

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