CASE FOR ACTION-
PROPOSAL TO NHMRC

Improving the prevention and management of chronic disease among people with mental illness

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Submitted by the Research Translation Faculty Improving Care of Patients with Multiple and Complex Chronic Disease Steering Group (October 2014)
The National Health and Medical Research Council (NHMRC) Research Translation Faculty (the Faculty) was established as a key advisory forum in 2012. The primary work of the Faculty for the 2013-15 Triennium has been to help NHMRC accelerate the translation of research by identifying the most significant gaps between research evidence and health policy and practice in each of the major health areas in the NHMRC Strategic Plan, and to propose to NHMRC possible action it could consider taking to address that gap – these are called Cases for Action. In April and May 2013, fourteen Faculty steering groups were established as NHMRC working committees to each oversee the development of a Case for Action.

The Faculty’s Improving Care of Patients with Multiple and Complex Chronic Disease Steering Group is comprised of a range of experts and includes primary (1°) and secondary (2°) representatives of NHMRC Health Care Committee (HCC), Prevention and Community Health Committee (PCHC) and Research Committee (RC). Further information is available at: www.nhmrc.gov.au/research/research-translation/research-translation-faculty/research-translation-faculty-steering-groups.

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Declaration of interests
The declarations of interests of Steering Group members, authors and contributors are available at Appendix 1.

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NHMRC Research Translation Faculty

Improving Care of Patients with Multiple and Complex Chronic Disease Steering Group Case for Action

Title: Improving the prevention and management of chronic disease among people with mental illness.

Submitted to NHMRC for consideration: October 2014

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Improving the prevention and management of chronic disease among people with mental illness

NHMRC Research Translation Faculty | Case for Action

Improving Care of Patients with Multiple and Complex Chronic Disease
Steering Group
**Rationale**

1. Australian and international research demonstrates that compared to the general population, people with severe mental illness are:
   a. more likely to have co-morbid chronic disease;
   b. more likely to die prematurely from chronic disease; and
   c. more likely to die from their chronic disease than from immediate consequences of their mental illness.

2. Compared to the general population, people with severe mental illness are:
   a. more likely to have preventable risk factors for chronic disease;
   b. less likely to receive advice about managing their risk factors;
   c. less likely to be referred for specialist treatment of chronic disease; and;
   d. less likely to be receiving optimal treatment for their chronic disease, and greater effort needs to be expended to achieve similar prevention activity rates.

3. Evidence suggests that chronic disease prevention for people with mental illness not in crisis or acute phases is not prioritised as highly as other needs resulting from their mental health disorder, and is a reason for the lack of effort on prevention of chronic diseases.

4. There is evidence that chronic disease prevention interventions targeting people with mental illness can reduce risk of chronic disease.

5. There is evidence that the management of chronic disease can be improved for people with mental illness resulting in better health outcomes.

6. Consequently, there is a strong case both on the basis of equity and health gain for the NHMRC to promote systematic attention to the prevention and management of chronic disease among people with severe mental illness.

7. The systematic prevention and management of chronic diseases for people with mental illness will improve the care of patients with multiple and complex chronic disease, and therefore aligns with the NHMRC Strategic Plan 2013-15. It also directly addresses the following Major Health Issues and National Health Priority Areas:
   - Cardiovascular health and stroke
   - Diabetes Mellitus
   - Mental Health (with a focus on depression)
   - Obesity
Proposed Action

1. The NHMRC to lead the development of an evidence summary for interventions that could be implemented to improve prevention and management of chronic disease in people with mental illness. The evidence summary should draw on the international literature, but focus on the Australian context. Timeframe: medium term (one to three years).

2. The NHMRC to conduct an activity scan (mapping exercise) to obtain a representative sample of chronic disease prevention and management models currently being implemented in Australia for people with mental illness. The scan should also collate what evaluation measures are in place for these models. Timeframe: short term (up to 12 months).

3. The NHMRC to consider co-sponsoring a national audit survey of care received by patients in the target populations. The level and type of care documented in the audit should be assessed against evidence of best practice. Timeframe: medium term (one to three years).

4. The NHMRC to consider specific funding for record linkage studies in one or more States and Territories to examine the medical care and mortality of patients with mental illness. The study design should ensure results that are comparable with the 2001 Western Australian study to assess changes over time, and should incorporate lessons learned from international record linkage studies. Timeframe: medium term (one to three years).

5. The NHMRC to establish a working party to develop guidelines on the management of drug-associated cardiovascular risks. The working party should also address how best to disseminate and implement such guidelines, particularly with regards to primary care clinicians. Timeframe: short term (up to 12 months).

6. The NHMRC to work with consumer groups and the National Mental Health Commission to identify opportunities for health systems improvements for more effective implementation of interventions identified in the evidence summary. Attention should be given to quantifying potential savings or costs incurred from these improvements, and the impacts on out-of-pocket costs for patients. Timeframe: short term (up to 12 months).

7. The NHMRC to work with consumer groups and the National Mental Health Commission to identify performance measures to monitor progress with improving prevention and management of chronic disease in people with mental illness. Timeframe for the implementation of the study: short term (up to 12 months).
8. The NHMRC to establish a multi-agency stakeholder workshop or working party to identify the barriers to better integration between physical and mental health care, and to identify actions to overcome such barriers. Timeframe: short term (up to 12 months).

9. The NHMRC to commission a systematic review of programs to incentivise practice improvement in the area of mental health care. Timeframe: short term (up to 12 months).

10. The NHMRC to disseminate evidence guidelines, system change portfolio and performance measures to State, Territory and Commonwealth Ministers for Health. Timeframe: medium term (one to three years).

Barriers

While the proposed actions are achievable, they may potentially be hindered by the existing barriers such as:

a) There are significant gaps in the evidence base of what constitutes best practice to prevent and manage chronic diseases in people with mental illness, particularly around different models of care.

b) There is repeated mention in both the Australian and international literature of a professional dichotomy between physical and mental specialisations in medicine. This dichotomy has been reported to hinder integrative care, and allows patients to fall through the gaps in care.

c) The literature documented that some non-clinical needs are barriers to adequate care for people with mental illness. Carr et al (2012) noted that when people with mental illness are homeless or lack suitable housing, it is difficult for health services to provide continuity of care since services providers are unable to locate the person.

d) Many serious mental illnesses first manifest in young adults. This patient group is frequently associated with the adoption of chronic disease risk factors including smoking, poor diet, and low physical activity. These may not seem important to the treating clinician or the patient at that time.

e) Currently there is no coordinated national strategy with clearly defined targets to better prevent and manage chronic diseases in people with mental illness. The ‘Improving the physical health of people with severe mental illness’ report from Victoria (Ministerial Advisory Committee on Mental Health, 2012) found that clearly defined strategies in policy documents were important for driving the organisational culture change necessary to improve practice.

f) Current metabolic screening guidelines for patients taking antipsychotic medication have been reported to be too narrow and
are not being adequately implemented (Waterreus and Laugharne 2009). Confusion over boundaries of care provision within the health workforce is a potential barrier to the proposed action (De Hert et al. 2011b). These barriers are modifiable and will be addressed.

**Enablers**

Various existing systems and enabling infrastructure will help to overcome the barriers the proposed actions may face:

a) There is an established evidence base around the prevalence of chronic disease among people with mental illness, and there is a strong body of evidence that suggests people with mental illness face many modifiable risk factors for chronic physical conditions.

b) Australia already has published clinical guidelines for monitoring of metabolic risk factors in patients taking antipsychotic medication. These guidelines could be built on or serve to complement new guidelines (Waterreus and Laugharne 2009).

c) Established health workforce training can be expanded to include a focus on the physical care of people with mental illness.

d) The federal system already provides access to primary care practices through the MBS, and the existing State and Territory level system of specialist care services for people with mental illness. However, the extent to which these systems provide care which is consistent with the best available evidence is currently unclear.

e) Established targets to improve the physical health of people with mental illness, such as in the Healthy Active Lives consensus statement for young people, can be used to inform action plans (HeAL 2013).

**Evidence Supporting Case for Action**

1. Mental illness and chronic disease are both relatively common in the Australian population. In the Australian Report of the 2007 National Survey of Mental Health and Wellbeing, 20.0% of the population aged 16-85 years reported a mental health disorder in the past 12 months and nearly half the same population (45.5%) had experienced an anxiety, affective or substance use disorder at some time in their lifetime (Slade et al. 2009).

2. There is a complex relationship between mental health and chronic disease. Mental health problems are more common in people with chronic diseases. The 2007 National Survey of Mental Health and Wellbeing found mental illness within the past 12 months was reported in 28.0% of the population with chronic physical conditions compared to 17.6% in those without such conditions. This was particularly true for women, with 32.9% of women with a chronic physical condition also having a mental health
disorder in the past 12 months compared to 22.1% of men (Slade et al. 2009).

3. Chronic diseases including diabetes, asthma, coronary heart disease, stroke, cancer and arthritis were reported by 34.5% of people with any mental health disorder, which was similar to those without any mental health disorder (31.7%). However, in those with more severe mental illness, the prevalence of chronic disease was much higher compared to those without such disorders. For example, in the Australian National Survey of Psychotic Illness 2010, which focused on patients seen in the public health sector with severe mental illness, asthma rates were 30.1% compared to 20.2% for the general population and heart or circulatory conditions 26.8% compared to 16.3% for the general population (Morgan et al. 2011). High rates of chronic comorbid medical conditions, most frequently cardiovascular, were also reported in people with schizophrenia (Mitchell and Malone 2006).

4. People with severe mental illness are more likely to have risk factors for chronic disease. In the Australian National Survey of Psychotic Illness 2010 (Morgan et al. 2011; 2012):
   a. One quarter (24.0%) of people with psychosis were at high risk of cardiovascular disease. No general population comparison was given.
   b. Almost half (45.1%) of people with psychotic illness were obese, whereas one fifth (21.0) of the general population were obese.
   c. Physical activity levels were far lower in people with psychosis, with 96.4% classified as either sedentary or undertaking low levels of exercise in the previous week compared to 72.0% for the general population.
   d. Two thirds (66.1%) of people with psychosis smoke tobacco, smoking on average 21 cigarettes per day.
   e. Heavy alcohol use (consuming alcohol at levels that constitute abuse or dependence at some point in their lifetime) was reported in 58.3% of males and 38.9% of females compared to 35.3% of males and 14.1% of females in the general population.

5. There is substantial evidence both from Australian and international studies that the prevalence of risk factors for chronic disease are higher among people with severe mental illness. In particular, there is evidence that modifiable cardiovascular risk factors are higher amongst people with mental illness compared with the general population.
   a. An Australian study found that people with mental illness had higher prevalence of smoking, overweight and obesity, low physical activity, and harmful levels of alcohol and salt consumption compared with the general population (Davidson et al. 2001).
b. Smoking, a known risk factor for many serious chronic diseases, is frequently cited as being more prevalent in patients with mental illness compared with the general population (Davidson et al. 2001; de Leon and Diaz 2005; Compton et al. 2006).

c. Although smoking cessation produces one of the greatest risk reductions for cardiovascular disease, Lawrence et al (2009) cite that there is very little evidence of smoking cessation activities being targeted towards people with mental illness. This is despite the fact that mental illnesses are independently associated with lower rates of smoking cessation (Lawrence et al. 2013).

d. A recent Australian study reported that for individuals 25 years or older, those with psychosis had significantly higher mean BMI, waist circumference, diastolic blood pressure, triglycerides and significantly lower HDL-c than those without psychosis. Women aged 25 or above also had significantly higher glucose levels if they had psychosis (Foley et al. 2013).

6. Some mental illnesses may be independent risk factors for chronic diseases. The complex relationship between mental and physical health is not entirely understood and further research is needed.

   a. Schizophrenia (independent of medications) has been demonstrated to be a risk factor for diabetes mellitus, but the association is not yet fully understood (Ryan et al. 2003; De Hert et al. 2006, 2011a).

   b. In a study using data from the Whitehall II study, depressive symptoms were predictive of stroke over a 0-5 year time span, but this association was not found over 5-10 years (Brunner et al. 2014). The study confirmed that depression is not predictive of stroke, but that there is an association between depression and stroke due to reverse causation.

7. The landmark study “Duty to Care: Preventable physical illness in people with mental illness” (Lawrence et al. 2001) used record linkage methods to demonstrate the higher burden of chronic disease among people with mental illness presenting to Western Australian hospitals. The study included 231,311 people who were users of outpatient or inpatient services of Western Australian hospitals from 1966-1999. The sample over-represented severe mental illnesses (which are more likely to be seen at outpatient or inpatient hospital services) but included the full spectrum of mental illnesses. Key findings relevant to this study include:

   a. People with mental illness have considerably elevated mortality rates from all main causes of death. Their overall mortality rate is two and a half times higher than the general population of WA.

   b. The greatest number of excess deaths in the mentally ill was due to ischaemic heart disease (IHD) and the number of excess deaths due to IHD was double the number of excess deaths due to suicide.
c. Despite a downward trend in the general community, the IHD death rate in people with mental illness has increased in women and remained roughly constant in men. People with diagnosed mental illness have not been beneficiaries of the marked decline in IHD mortality in Australia.
d. Lower rates of revascularisation procedures were observed in people with mental illness, particularly in people with psychoses.
e. Hospitalisation rate ratios for people with mental illness were often lower than corresponding mortality rate ratios suggesting that people with mental illness may not receive the level of health care commensurate with their illness.
f. Despite very high rates of smoking, cancer incidence was no different in people with mental illness than the general population. However, once a cancer was diagnosed there was a 30.0% higher case fatality rate in users of mental health services.
g. 44.0% of Hepatitis C cases and 19.0% of HIV cases in WA were among users of mental health services.
h. Infectious diseases associated with high risk personal behaviours such as drug use and unsafe sexual practices occurred at a significantly elevated rate in people with severe mental illness. Patients with psychoses and alcohol or drug disorders were at the highest risk.

8. The Lawrence et al. (2001) study is more than 10 years old and since then there have been ongoing changes in chronic disease patterns, policy and strategies for the prevention and care of chronic disease and mental health. There is a strong case to be made to replicate the 2001 study. Given the development of record-linkage systems in other States and Territories it may be possible to replicate the study in other sites.

9. The findings of increased chronic disease morbidity and mortality among people with mental illness has been reported in many other studies and include:
   a. Increased rates of complications of diabetes (up to fourfold) in persons with both depression and diabetes (Katon et al. 2010).
   b. Higher mortality from myocardial infarction among persons who have comorbid anxiety disorders (up to twofold), excluding obsessive compulsive disorders (Scherrer et al. 2010).
   c. Increased rates of mortality from coronary heart disease were related to co-morbid clinically assessed depression (Brunner et al. 2014). A dose response was found for frequency of depressive symptoms and coronary heart disease events (ie. coronary death or non-fatal myocardial infarction).
10. There is substantial evidence that medical care for chronic disease in persons with severe mental illness is poorer than that for persons without such disorders (De Hert et al. 2009, 2011a; Fagiolini and Goracci, 2009; Lawrence and Kisley 2010). Much of this research is not Australian and so needs to be considered with caution given the differences in health care system access particularly in primary care. The evidence includes:

a. Among US Medicaid enrollees, persons identified with a comorbid mental condition were significantly less likely to have adequate diabetes care (Druss et al. 2012).

b. A study from the US found that for patients with schizophrenia, rates of non-treatment were 88.0% for dyslipidemia, 62.4% for hypertension and 30.2% for diabetes (Nasrallah et al. 2006).

c. Frayne et al. (2005) found that diabetes care standards differed according to which mental health disorder a person had. Among patients with mental illness, diabetes care standards were less likely to be met for people with psychosis, mania, substance abuse and personality disorders.

Evidence from Australia of poorer medical care for people with mental illness includes:

d. A study found that despite the fact that the prevalence of diabetes was significantly higher in people with mental illness than those without mental illness, they were less likely to receive recommended pathology tests (Mai et al. 2011a). Furthermore, people with mental illness were at an increased risk of hospitalisation for diabetes-related complications and mortality, and all-cause mortality.

e. A further study by the same authors found that people with mental illness were more likely to experience potentially preventable hospitalisations (Mai et al. 2011b). This was particularly the case for convulsions and epilepsy, nutritional deficiencies, chronic obstructive pulmonary disorder, and adverse drug events. The types of mental illness most associated with a potentially preventable hospitalisation were alcohol and drug disorders, affective psychoses, other psychoses and schizophrenia.

f. People who used mental health services from all categories of mental illness were found to have attended primary care practices significantly more than those who did not use mental health services, with the exception of those with no fixed home address (Mai et al. 2010). The reason for primary care visits were unknown to the researchers and could have been related to their mental illness. Regardless, the poorer physical health outcomes for people with mental illness in this study suggest that these patients were unable to benefit from higher primary care attendance.
11. Evidence that targeted approaches to improving the health outcomes from chronic disease among people with mental illness is suggestive but limited.
   a. Bradford et al. (2013) undertook a systematic review of interventions that integrated medical and mental health care approaches to improve general medical outcomes in persons with severe mental illness. In four randomised controlled trials identified, two studies found an improvement in reported physical health but no studies reported changes in clinical outcomes for chronic disease.
   b. Cimpean and Drake (2011) reviewed studies of interventions for care of people with co-morbid chronic medical illness and anxiety and/or depression disorders – a group with high risks for morbidity and mortality. They identified randomised controlled trials of complex interventions based on the chronic care model, and eight trials of psychosocial interventions. Most interventions addressed only the mental health aspect of the co-morbidity and showed improvements in anxiety and/or depression but not in the co-morbid medical disorder. They concluded that there was a need for further research on interventions integrating mental health treatment with enhanced medical care.
   c. De Bruin et al. (2012) reviewed published studies of comprehensive care programs for patients with multiple chronic conditions, including 42 publications describing 33 studies evaluating 28 comprehensive care programs for multi-morbid patients. In some but not all patients, multi-morbidity included mental health problems such as depression. Evidence supported a beneficial effect on inpatient healthcare utilisation and healthcare costs, health behavior of patients, perceived quality of care, and satisfaction of patients and caregivers. However, there was insufficient evidence supporting positive effects on health-related quality of life in terms of mental functioning, medication use, and outpatient healthcare utilisation and healthcare costs. There was no evidence of effects on cognitive functioning, depressive symptoms, functional status, mortality, quality of life in terms of physical functioning, and caregiver burden. The authors concluded that because of the heterogeneity of comprehensive care programs, it was not possible to draw conclusions regarding the effectiveness of the interventions and more sophisticated evaluations were required.

12. Evidence of the effectiveness of targeted approaches to prevention for people with severe mental illness is growing.
   a. Bonfioli et al. (2012) reviewed psycho-educational or cognitive-behavioural interventions to achieve weight loss or prevention of weight gain in patients with psychosis. The meta-analysis of randomised control trials showed that after intervention, there was a −0.98 kg/m² reduction in mean BMI of patients with psychosis. The authors concluded that individually targeted interventions that include diet and
exercise are generally effective.

b. Verhaeghe et al. (2011) reviewed the effectiveness and cost-effectiveness of lifestyle interventions for physical activity and eating habits in persons with severe mental illness. In 8 of 11 studies that met the inclusion criteria there was a significant improvement in BMI. There were no studies of cost-effectiveness.

c. Cabassa et al. (2010) reviewed lifestyle interventions to reduce metabolic risk factors and achieve weight loss. Of the 23 studies that met the inclusion criteria, 12 studies reported significant weight loss or reduction in metabolic syndrome risk factors after receiving lifestyle interventions. The authors noted that there was an underrepresentation of ethnic minorities in the literature, which limits the generalisability of current evidence.

d. Kemp et al. (2009) reviewed behavioural interventions to reduce the risk of physical illness in persons living with mental illness. The authors concluded that there was modest success during the period of intervention, although they did not provide details on what proportion of studies had success. However, most interventions were for short periods, thus the sustainability of the effect is unknown.

e. Álvarez-Jiménez et al. (2008) conducted a systematic review and found that non-pharmacological weight loss interventions were effective in patients with schizophrenia. The weighted mean difference for mean body weight in patients who underwent a non-pharmacological weight loss intervention was -2.5kg, compared with patients who received usual treatment.

f. A clinical trial is currently underway in Australia to assess the effectiveness of a clinical practice intervention to increase the routine provision of preventive care of chronic diseases for people with mental illness within community mental health service settings (Bartlem et al. 2013). The intervention includes increased client assessments, brief advice, and referral for modifiable risk behaviors such as smoking.

An area of specific concern is that common side effects of some commonly used antipsychotic medications, particularly second generation antipsychotic medications, are obesity, diabetes, cardiovascular and metabolic syndrome risk factors.

a. Metabolic syndrome has been reported in up to 51.9% of patients with schizophrenia taking clozapine and 28.2% of patients taking olanzapine (both are second generation antipsychotics), compared to 20.2% of patients with schizophrenia not taking medication (Mitchell et al. 2013).

b. There is also evidence that antipsychotics are being used in a broader range of patients, where the risk-benefit margin is unknown.

c. Adverse metabolic effects of second generation antipsychotics have been reported in children and adolescents. One systematic review reported that current evidence suggests children and adolescents have
a greater risk of developing hyperprolactinaemia, weight gain, and metabolic abnormalities from antipsychotic drugs than adults (De Hert et al. 2011a). Data from this review was only sufficient to conduct a meta-analysis from 24 randomised controlled trials for mean weight change for children and adolescents on second generation antipsychotics. Mean weight gain ranged from -0.04 kg (for ziprasidone) to 3.45 kg (for olanzapine). The risk was not provided for adults.

d. A number of guidelines for management of patients taking antipsychotics have been published, but the evidence for the best approach to managing metabolic side effects of antipsychotics is very limited (Waterreus and Laugharne 2009; Foley et al. 2014).

e. There is evidence that the available guidelines for monitoring metabolic risk in patients taking antipsychotic medication are not being followed (Lambert and Newcomer 2009; Waterreus and Laugharne 2009; Mitchell et al. 2012; Eapen et al. 2013). An Australian study, using data collected from a regional centre in Queensland, found that care boundaries in the health workforce were a major barrier to the implementation of evidence-based guidelines (Ehrlich et al. 2014).

14. The evidence gaps based on this high level review include:

a. Unproven benefits of targeted comprehensive disease management programs for people with major mental illnesses and multiple chronic conditions, especially in the Australian health care context.

b. Limited studies of the care pathways in the Australian health care system for people with mental illness and multiple chronic conditions, and therefore of service issues relative to needs.

c. Lack of longer term studies on the benefits of targeted prevention programs.

d. The typology of chronic and complex conditions needs review, including the extent to which mental health is a result of poor physical health or a separate co-morbid condition.

15. In the preparation of this Case for Action, it has become evident that clinicians and health services are responding to concerns about the prevention and management of chronic disease among people with severe mental illness. While commendable, this reinforces the need to clarify and build the evidence base for interventions as soon as possible.
16. There is limited information on a) the additional costs to the health care system from targeted prevention of chronic disease or better coordinated care among people with severe mental illness; b) the cost-effectiveness of such interventions.

a. Park et al. (2013) undertook a systematic review of economic evaluations of physical health interventions for people with mental illness, and found only 11 studies that met the inclusion criteria, and the authors noted that there is very little existing evidence. Three of four lifestyle modification interventions were found to have a 74.0% to 99.9% probability of being cost-effective from cost-effectiveness or cost-utility analyses. Five study protocols were also identified, including two from Australia. Both Australian studies will investigate the resource use and costs to deliver smoking cessation interventions, with one also reporting on costs incurred from health service use.

b. Tosh et al. (2014) conducted a Cochrane review to examine the effectiveness, including the cost-effectiveness, of physical health monitoring for people with serious mental illness. They located no studies that fitted their inclusion criteria.

c. A 2011 systematic review located no studies reporting on the cost-effectiveness of lifestyle interventions for people with severe mental disorders (Verharghe et al. 2011).

**Potential Impact**

The proposed action has the potential to improve the quality of life and life expectancy of patients with mental illness and comorbid chronic disease.

The proposed action also has the potential to reduce health inequities by reducing the disparity of morbidity and mortality between the general population and people with mental illness. This impact is predicted to be identifiable in the long term (over three years) due to the time that it takes to evaluate morbidity and mortality changes.

Implementation of the action plan is likely to improve the efficiency of healthcare resource use. In particular, systematical prevention of chronic disease in people with mental illness is likely to generate efficiency gains by preventing the ongoing morbidity and health care utilisation often required for chronic disease management.
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The declarations of interests of Steering Group members, authors and contributors to this Case for Action are listed below.

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<td>• Member, Scientific Advisory Committee, National Centre for Immunisation Research and Surveillance 2010.</td>
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<td></td>
<td><strong>Grants</strong></td>
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<td></td>
<td>• 2013 - Chief Investigator - NHMRC Partnership Centre for Systems Approaches to the Prevention of Lifestyle related chronic disease (not directly paid from this source)</td>
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<td>• 2011 - Co-Investigator - Centre for Research Excellence (CRE) in Health Economics of Control of Hospital Acquired Infections (NHMRC)</td>
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<td></td>
<td>• 2006 - Co-Investigator - Environments for Healthy Living Cohort. (Funding: NHMRC, Griffith University)</td>
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<td>• 2010-12 - Co-Investigator - How can citizen juries inform health care policy decisions? (Funding: ARC Linkage).</td>
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<td></td>
<td><strong>Speeches/lectures</strong></td>
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<td></td>
<td>• Speaks regularly about issues relating to prevention and management of chronic disease but does not advocating for any particular position other than the need for reform of the health system to address the problem</td>
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<td>• Publishes articles in peer review journals from research on this area.</td>
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<td></td>
<td><strong>Expert testimony</strong></td>
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<tr>
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<td>• In past roles has provided expert testimony to parliamentary committees in Queensland and NSW.</td>
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<tr>
<td></td>
<td><strong>Employment</strong></td>
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<td></td>
<td>• Employed by the University of Sydney to direct the Menzies Centre for Health Policy which has the study of care for persons with complex chronic disease (CCD) as one of its core activities.</td>
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<td></td>
<td><strong>Other</strong></td>
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<td></td>
<td>• Editor in Chief of the Australian Health Review and regularly assess and deliberate on papers relating to chronic and complex conditions.</td>
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<tr>
<td></td>
<td><strong>Potentially relevant publications (last 5 years)</strong></td>
</tr>
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<td></td>
<td>• Lakhan P, Jones M, Wilson A, Courtney M, Hirdes J, Gray L. The Higher Care At Discharge Index (HCDI): Identifying Older Patients At Risk Of Requiring A Higher Level Of Care At Discharge. Archives of Gerontology and Geriatrics (Accepted for publication 1/4/13)</td>
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|                          | • Lakhan P, Jones M, Wilson A, Courtney M, Hirdes J, Gray L. The decline in Activities of Daily Living at Discharge (DADLD) Index: Stratifying patients at lower ad higher risk. J Nutrition,
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<tr>
<th>Name and Role(s)</th>
<th>Interests declared</th>
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| **Prof Andrew Wilson**   | Health, Aging. 2012 Oct;16(10):919-24  
  1 0.1111/j.1532-5415.2011.03663.x. Epub 2011 Oct 10  
  • Jordan S, Wilson A, Dobson A. The management of heart conditions in older rural and urban Australian women. Intern Med J. 2011 ;41 (1 0), 722  
| **Prof Libby Roughhead** | Employment  
  • University of South Australia.  
  Board membership  
  • Past non-salaried Director Therapeutic Guidelines Ltd.  
  Consultancy fees/honorarium  
  • Drug Utilisation SubCommittee, Australian Government Department of Health and Ageing  
  • Medication Reference Group, Australian Safety and Quality Commission.  
  Grants  
  • NHMRC grant, ARC grant, Department of Health and Ageing funding, Department of Veterans’ Affairs funding, Department of Foreign Affairs grant.  
  Speeches/lectures  
  • Lectures on quality use of medicines and care of complex patients, those with comorbidity. |
| **Prof Jonathan Golledge** | Employment  
  • Queensland Health.  
  Consultancy fees/honorarium  
  • Remedy Healthcare.  
  Grants  
  • NHMRC/Queensland Government/Bupa.  
  Support for travel/accommodation  
  • National Heart Foundation meetings.  
  Speeches/lectures  
  • Has given talks on peripheral artery disease (PAD) and abdominal aortic aneurysm (AAA) although unclear that these will be relevant. |
| **Prof Patricia Davidson** | Employment  
  • University of Technology Sydney (UTS)  
  • John Hopkins University, Baltimore, USA.  
  Ownership interests  
  • National Health and Medical Research Council  
  • Australian Research Council  
  Board membership  
  • International Council on Women’s Health Issues  
  • Development Board, Sigma Theta Tau International.  
  Consultancy fees/honorarium; Grants; Support for travel/ accommodation; meals/beverages; speeches/lectures;other  
  • Yes (not specified).  
  Relationships and Activities  
  • Cardiac Society of Australia and New Zealand  
  • Heart Failure Society of America |
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| **Prof Patricia Davidson**           | - Preventive Cardiovascular Nurses Association  
- American Heart Association  
- Australasian Cardiovascular Nursing College.                                                       |
| **Prof Louisa Jorm**                 | **Grants**  
- Holder of NHMRC Project, Partnership Project and Capacity Building Grants and applicant and likely future applicant for NHMRC Project, Partnership Project and Centre for Research Excellence grants.  
**Board membership**  
- Board member, NSW Bureau of Health Information  
- Member (Appointed by Minister for Health), Alcoholic Beverage Advertising Code (ABAC) Adjudication Panel. |
| **Prof Chris Del Mar**               | **Employment**  
- Bond University since 2004 in various roles, currently professor of public health.  
**Board membership**  
- Board member of two companies to commercialise research at Bond University, part of my responsibilities as Pro-Vice Chancellor (Research), resigned in 2010  
- Central and Southern Queensland Training Consortium, resigned in 2004.  
**Consultancy, fees/honorarium**  
- Received as part of board membership (above)  
- National Prescribing Services (NPS) consultations  
- Royal Australian College of General Practitioner’s (RACGP) Red Book  
- Therapeutic Guidelines (eTG) guidelines development  
- Remote Primary Health Care Manuals Editorial Committee  
- Royalties for three books (Wileys and BMJ Books) on EBM, and clinical thinking  
- Editorial work (MJA Deputy Editor; ACP Journal Club; BMJ).  
**Grants (non-commercial)**  
- NHMRC Centre of Research Excellence (CRE) (antibiotic resistance) for Cochrane Acute Respiratory Infections (ARI) Group  
- National Heart Foundation (providing the evidence-based underlying BP guideline development)  
- A grant from a private donor (for the Cochrane Collaboration ARI Group).  
**Speeches/lectures**  
- As a member of the RACGP’s Preventive Guidelines (Red Book) Committee  
- About antibiotic resistance (both for the NPS and own research)  
- Other issues from time to time which may be relevant.  
**Activities**  
- Has prejudices about: screening (that we advocate too much in Australia); evidence-based medicine (not enough); health literacy (insufficient focus on empirical at the expense of patho-physiological).  
**Support for travel or accommodation**  
- Provision of accommodation from a pharmaceutical company (Tolmar) manufacturing an oncology product for treating advanced prostate cancer, to attend a national conference on prostate cancer; the process for guidelines development about prostate cancer screening was presented on behalf of the RACGP. |
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| **Prof Samar Aoun**                                   | **Employment**  
- Professor of Palliative Care, and Associate Dean of Research, Faculty of Health Sciences, Curtin University.  
**Grants**  
- Past and current NHMRC and ARC grants and possibly future ones. |
| - Steering Group member                              | **Board membership**  
- Thorax Editorial Board  
- Associate Editor Respirology  
- International Advisory Board Vertex Pharmaceuticals. |
| - Prevention and Community Health Committee (PCHC) primary contact | **Grants**  
- Chief Investigator on NHMRC project grants  
- Income on a per patient basis derived from pharmaceutical studies as listed below:  
  - 2007, Merck Sharp and Dohme: Treatment of Episodic Asthma in Children  
  - 2008, Novartis Pharmaceuticals Corporation: Trial to Assess the Safety of Tobramycin Inhalation Powder Compared to TOBI® in CF Subjects  
  - 2009-2011, Inspire Pharmaceuticals Inc.: two studies: (1) Efficacy and Safety Study of Denufosol Tetrasodium Inhalation Solution in Patients with Cystic Fibrosis Lung Disease and FEV1>/ 75% but < 110% (2) Study of Denufosol Tetrasodium Inhalation Solution in Patients with Cystic Fibrosis Lung Disease  
  - 2010-2014, Vertex Pharmaceuticals Inc.; five studies: (1) Study to Evaluate the Efficacy and Safety of VX 770 in Subjects with Cystic Fibrosis and the G551D Mutation” (2) Study to Evaluate the Pharmacokinetics, Efficacy and Safety of VX 770 in Subjects aged 6 – 11 Years with Cystic Fibrosis and the G551D Mutation (3) Study to Evaluate the Long Term Safety and Efficacy of VX 770 in Subjects with Cystic Fibrosis (4) Study to Evaluate the Efficacy and Safety of Lumacaftor in Combination with Ivacaftor in Subjects Aged 12 Years and Older with Cystic Fibrosis, Homozygous for the F508del-CFTR Mutation (5) Study to Evaluate the Safety and Efficacy of Long-term Treatment with Lumacaftor in combination with Ivacaftor in Subjects Aged 12 Years and Older With Cystic Fibrosis, Homozygous or Heterozygous for the F508del-CFTR Mutation”  
  - 2011-2014, Boehringer-Ingelheim; three studies: (1) A trial to confirm the efficacy and safety of tiotropium administered via the Respimat B device in patients with cystic fibrosis; (2) A trial to evaluate efficacy and safety of tiotropium inhalation solution delivered via Respimat® inhaler in children with severe persistent asthma; (3) A trial to evaluate efficacy and safety of tiotropium inhalation solution delivered via Respimat® inhaler in adolescents with severe persistent asthma  
  - 2010-2012, GlaxoSmithKline: Analysis of Bronchoalveolar Lavage (BAL) fluid from children with respiratory disorders  
  - 2012 - 2013, Novo Nordisk Pharmaceuticals Pty Ltd - Cystic Fibrosis - Insulin Deficiency, Early Action (CF-IDEA) Research Grant. |
| - Author                                              | **Consultancy fees/honorarium**  
- Other presentations with reimbursements / activities as listed below:  
  - Novartis Pharmaceuticals Corporation: (1) TOBI® supplied by Pathogenesis, Chiron, and Novartis for the ACFBAL study between 1999 and 2009; (2) Acted on international Drug Advisory Board for Novartis regarding TOBI/TIP European CF meeting Valencia 2010; (3) Presented for the Novartis sponsored CF Symposium at European CF meeting Valencia 2010 (1 night’s accom. provided); (4) Economy flight return Brisbane to Melbourne to present to PBAC 9th March 2011; (5) European CF Conference Lisbon  
  - Boehringer-Ingelheim: three studies: (1) A trial to confirm the efficacy and safety of tiotropium administered via the Respimat B device in patients with cystic fibrosis; (2) A trial to evaluate efficacy and safety of tiotropium inhalation solution delivered via Respimat® inhaler in children with severe persistent asthma; (3) A trial to evaluate efficacy and safety of tiotropium inhalation solution delivered via Respimat® inhaler in adolescents with severe persistent asthma  
  - GlaxoSmithKline: Analysis of Bronchoalveolar Lavage (BAL) fluid from children with respiratory disorders  
  - Novo Nordisk Pharmaceuticals Pty Ltd - Cystic Fibrosis - Insulin Deficiency, Early Action (CF-IDEA) Research Grant. |
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| **Prof Claire Wainwright ...continued** | July 2013 - return travel and accommodation to present symposium; (6) Honorarium to present symposium at Australasian CF Conference in August 2013  
- L.E.K Consulting: Consulting Interview regarding CF Studies  
- Vertex Pharmaceuticals Inc.: (1) Consultant on the Vertex Physician Paediatric CF Advisory Board; (2) May 2013 - San Francisco return flight and accommodation as Investigator in Lumacaftor (104) study  
- Guidepoint Global: Phone consultation regarding recent CF Trials  
- Gilead Sciences Inc.: AZLI Advisory Board Honorarium  
| **Prof Debra Rickwood** | **Employment**  
- Professor of Psychology, Faculty of Health, University of Canberra  
- Chief Scientific Advisor, headspace National Youth Mental Health Foundation Inc.  
**Activities**  
- Member, Scientific Leadership Council for the Young and Well Cooperative Research Centre  
- Member, Australian Institute of Criminology Research Ethics Committee.  
**Board membership**  
- Director, Australian Psychological Society  
- Director, Richmond Fellowship ACT  
- Editorial Board, Advances in Mental Health.  
**Relationships**  
- Fellow, Australian Psychological Society  
- Member, Australian Psychological Society, College of Community Psychologists  
- Member, Australian Institute of Company Directors.  
**Grants**  
- Australian Rotary Health Research Project Grant  
- NHMRC Project Grant  
- NHMRC Partnership Grant  
- Cooperative Research Centre for Young People, Technology and Wellbeing Grant  
- beyondblue National Priority Driven Research Program Grant.  
**Consultancy fees-honorarium**  
- Mental Illness Fellowship Victoria. |
| **Prof Helen Herrman** | **Grants**  
- NHMRC Practitioner Fellow 2010-2014 and 2015-2019 in the field of youth mental health  
- Chief Investigator on NHMRC Project Grants  
- Current, past and likely future application to NHMRC for research and people support grants  
- Current leadership role as Director of Research in Orygen, The National Centre of Excellence in Youth Mental Health and Centre for Youth Mental Health, The University of Melbourne.  
**Travel/accommodation**  
- Director of the World Health Organization Collaborating Centre for Research and Training in Mental Health, Melbourne  
- Director to the Company Board of Australian Centre for Rural and Remote Mental Health Ltd, 2012 (Not-for-profit company).  
**Board membership**  
<p>| <strong>Ms Emily Morrice</strong> | <strong>Nil interests to declare.</strong> |</p>
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<tr>
<td>Dr Christopher G. Davey</td>
<td>Grants</td>
</tr>
<tr>
<td>• Contributor</td>
<td>• Currently holds and has applied for NHMRC grants.</td>
</tr>
<tr>
<td>• Chair, NHMRC Faculty Mental Health Steering Group</td>
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