About this submission
The main aim of this submission is to acquaint the Commission with the work of the Centre, and how our expertise might assist the Commission fulfill its terms of reference for this Inquiry. On this basis, we provide a short introduction to our Centre, followed by more detailed explanation of how our work addresses the individual areas of interest highlighted by the Commission in your discussion paper.

Overall, it should be noted that mental health research remains critically underfunded, particularly in comparison to the burden of illness it represents (https://www.mja.com.au/journal/2011/195/11/funding-mental-health-research-gap-remains). This is clearly one rationale underpinning the recent Million Minds research initiative. Despite this welcome recent interest, we recommend the Productivity Commission pay particular attention to the matter of mental health research and its capacity to lead the development of new and better approaches to managing mental illness and suicide prevention in Australia.

About the Centre

Our Vision
The vision of the Centre for Mental Health Research (CMHR) is to be recognised as a leader in excellent, innovative, population-based mental health research that is relevant to policy and practice.

Our Goals
- Excellence in research
- Dissemination of high-quality research through translation into policy and practice
- Training future leaders through research supervision and teaching
- A focus on research that is designed to be highly relevant to the mental health sector and to the broader population
- Incorporating the crucial lived experience perspective that consumers and carers bring, contributing to research directions, informing research design and in conducting research
- Collaboration with the mental health sector to reach common goals, including collaboration with academics from across disciplines, policymakers, service providers, consumers and carers
- Building capacity and sustainability in population mental health research
Expertise of the Centre

Expertise within the Centre covers broad areas of mental health, with a focus on prevention of common mental disorders, suicide, prevention, lived experience research, mental health policy research, better measurement of mental health in the community and improvement to services and treatments for better outcomes for people who experience mental disorders. We are involved in the design, implementation, management, analysis and reporting on a range of population health research data, including cross-sectional surveys, longitudinal cohort studies, randomised controlled trials, qualitative interviews, focus groups, and geospatial data on prevalence and service delivery. Our implementation studies examine barriers and facilitators of health service delivery, including specific expertise in e-health and school-based programs. To support our research and dissemination, we have developed strong collaborations with organisations and policy makers in Australia and internationally.

The Centre provides high quality teaching for students across several courses and programs in addition to supervising Honours, Masters and PhD candidates. We also offer an Expert Career Pathway PhD Program, designed specifically to engage senior leaders in the mental health and related areas in structured academic research. The aim here is to ensure rare mental health leadership skills and experience can have a more lasting influence on systemic quality improvement.

To engage the broader ACT and national community in areas of mental health research and interest, we run various seminar series. To publicise these more widely, we have developed close partnership arrangements with the Australian Health and Hospitals Association.

Costs of Mental ill-health

One of the most contentious areas of mental health research is to understand the cost of illness. In a recent publication (McCallum, Batterham et al. 2018), we determined the economic burden of mental disorders for individuals and the wider community based on the national prevalence of mental disorders. Our first approach considered intangible costs of ill-health measured through a Health Related Quality of Life (HRQoL) instrument developed in Australia, the Assessment of Quality of Life (AQoL)-4D. This multifactorial construct assesses health quality and key aspects of functioning from the perspective of the individual. We assumed a healthy life year was valued at A$50 000 based on the estimated gross domestic product per capita. Results using this estimate suggested that the annual value lost per person due to poor HRQoL was dependent on the mental disorder and ranged from A$1850 to A$15 700 (McCallum, Batterham et al. 2018). When national prevalence of each mental disorder was considered, estimates ranged from A$870 million to A$15 billion.

The second approach used to determine the economic burden of mental disorders was by lost productivity through absenteeism. This was calculated through the number of days a person was unable to perform their daily role due to poor mental health in the past month. Calculation of lost productivity was made using average weekly earnings from the Australian Bureau of Statistics of A$1136.60. The annual cost of lost productivity due to a mental disorder for an individual ranged from A$5000 to A$19 000. When national prevalence of each mental disorder was considered, estimates for the loss in average earnings ranged from $1 billion to A$17 billion. Using these two approaches, similar estimates were obtained. For the economic costs of each disorder, see Table 1 (McCallum, Batterham et al. 2018).
### TABLE 1: Economic burden of mental disorders in Australia

<table>
<thead>
<tr>
<th>Mental health condition</th>
<th>Estimated intangible costs of ill health (A$ million)</th>
<th>Estimated annual lost productivity (A$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depressive Disorder</td>
<td>10 243</td>
<td>12 457</td>
</tr>
<tr>
<td>Social Anxiety Disorder</td>
<td>10 145</td>
<td>10 364</td>
</tr>
<tr>
<td>Panic Disorder</td>
<td>3529</td>
<td>5596</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder</td>
<td>5168</td>
<td>4758</td>
</tr>
<tr>
<td>Obsessive-Compulsive Disorder</td>
<td>3438</td>
<td>4168</td>
</tr>
<tr>
<td>Post-Traumatic Stress Disorder</td>
<td>14 963</td>
<td>16 889</td>
</tr>
<tr>
<td>Alcohol Use Disorder</td>
<td>870</td>
<td>1262</td>
</tr>
<tr>
<td>Substance Use Disorder</td>
<td>1863</td>
<td>8723</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>5098</td>
<td>5020</td>
</tr>
<tr>
<td>Suicide Attempt</td>
<td>976</td>
<td>1781</td>
</tr>
</tbody>
</table>


### Interventions to improve mental health outcomes

There is extensive evidence that internet-based interventions can be effective for treating and preventing a range of mental health problems. Our team has considerable experience in conducting rigorous trials of internet interventions for depression, anxiety, insomnia and suicidal ideation. The key barrier to internet interventions having impact in the community is suboptimal implementation of the interventions within clinical services and directly to consumers. Our research group is focusing on how to reduce these implementation barriers for consumers and clinicians, as well as structural and policy barriers.

It is essential that interventions appropriately target mental health outcomes and that they are designed specifically for sub-populations. The approach to working with each sub-population will likely vary. For example, when designing interventions for Aboriginal and Torres Strait Islander peoples, Aboriginal and Torres Strait Islander people should lead the decision making processes to ensure acceptability and feasibility. Research should be conducted in meaningful partnership with communities and services. Ethical guidelines specifically focused on Aboriginal and Torres Strait Islander research must inform the development and conduct of the research and the implementation and dissemination of findings (National Health and Medical Research Council 2003, Australian Institute of Aboriginal and Torres Strait Islander Studies 2010). It is also important to consider cultural variations in the definitions of mental health, for example, many Aboriginal and Torres Strait Islander people consider wellbeing holistically, inclusive of social and emotional wellbeing (Australian Government 2017). The Centre has emerging expertise in the area of Aboriginal and Torres Strait Islander research (Calabria, Clifford *et al.* 2013, Calabria, Clifford *et al.* 2014, Snijder, Shakeshaft *et al.* 2015, Lokuge, Thurber *et al.* 2017, Thurber, Olsen *et al.* 2018).
Components to improving mental health and wellbeing

The VIDEA Lab

A critical new piece of infrastructure developed at CMHR is the Visual and Decision Analytics (VIDEA) lab, designed to enable and facilitate decision making in mental health policy using novel visual analysis techniques and is the first lab in Australia that combines and coordinates the expertise in two recent and related areas of knowledge (visual analytics and decision making) in mental health planning. It provides a unique opportunity to bring together the expertise on visual and decision analysis, modelling, mapping, media and arts from very different groups at ANU and apply them to a new area of collaborative research in mental health policy and practice.

VIDEA will facilitate evidence-based decision making at the different levels of the care system (individual, population, local, state, national, international) and has great potential to increase equity and efficiency of care planning and delivery. It will apply the most novel approaches to data visualisation and incorporate on-going research in the field of decision analysis applied to health care and policy.

VIDEA will be part of a national and international visual analytics hub coordinated from CMHR which will combine virtual nodes that bring together decision-scientists and visual analytics experts from many disciplines and on-site laboratories on specific areas of research in policy and society.

Health Systems Research

The VIDEA lab is just one component of a broader commitment by CMHR to contribute to health systems research, particularly mental health. Especially in attempting to address the social determinants of health as well as clinical or health-related matters, this kind of systems thinking is vital but, so far in Australia, rare. Even more sophisticated tools, like the National Mental Health Service Planning Framework struggle to be really useful in addressing the problems faced by local decision-makers, on the ground, every day.

Here, CMHR draws on close partnerships with a range of European researchers and organisations to develop new Australian capacity to map and model complex health systems, aiming to improve the quality of decision-making in vital areas like mental health. The Integrated Atlases of Mental Health are one example of this kind of technology but there are several others. CMHR is actively developing these for use in Australian conditions and establishing relationships with PHNs and other organisations to see them tested in the field.

Our conceptualisation of this systems research environment is below. This kind of work has already led to new capacity to compare mental health systems in different jurisdictions and drive quality improvement (Gutiérrez-Colosía, Salvador-Carulla et al. 2017). This benchmarking and decision-support infrastructure is largely missing in Australia.

There needs to be a standard system to allow comparisons of the model of care, the care provision and resource use in Australia with other mental health systems locally and nationally. This should include instruments for the international evaluation of services and interventions already tested in Australia such as the DEscription of Services and DirectorIES (DESDE) (Fernandez, Gillespie et al. 2017) (https://rsph.anu.edu.au/research/projects/atlas-mental-health-care), and the International Classification of Health Interventions (ICHI) (Castelpietra, Salvador-Carulla et al. 2017).
Complex health systems: TOOLS & ANALYTICAL TECH.
Specific mental health concerns

The inquiry mentioned in Table 1 that the inclusion of substance use disorders is under consideration. There is significant comorbidity of substance use observed in people with mental illness (Merikangas, Mehta et al. 1998, Gordon 2008) which has implications for effective treatment approaches. Treatments addressing substance use only, show improved outcomes for those who do not have co-morbid anxiety and/or depression and those that do; however those with co-morbid anxiety and/or depression continue to be more disabled and drink at riskier levels (Burns, Teesson et al. 2005), highlighting the limitation of addressing substance use independently from anxiety and depression. We believe that in order to address mental health, substance use disorders need to be within the scope of the inquiry. Therefore we highly recommend that the Commission includes substance use disorders to ensure mental health is considered holistically.

In addition, while the report considers comorbidity of mental disorders with physical disorders, it makes no mention of comorbidity within mental disorders. Comorbidity of mental disorders is common with one in four people with a mental disorder experiencing more than one disorder (Kessler, Chiu et al. 2005, Teesson, Slade et al. 2009). In light of this, it will be important for the Commission to consider mental disorder comorbidity.

Young people

We are in support of the inquiry’s focus on the mental health of young people. Our experience of delivering research programs in schools has highlighted that more support is required to improve the mental health of students. There is a considerable amount of psychological distress in the high school age, resulting in increased burden for teachers and mental health and wellbeing staff.

We acknowledge that there are a number of mental health and wellbeing programs on offer for schools to select from. However, the evidence-base for these programs is varied and the importance of selecting programs with a strong evidence-based must be emphasised with schools. Several systematic reviews, including those authored by academics at the Centre (Neil and Christensen 2009, Calear and Christensen 2010, Werner-Seidler, Perry et al. 2017) are available that collate the evidence for school-based prevention and early intervention programs for depression and anxiety and identify those programs that have evidence of significantly reducing and/or preventing symptoms of anxiety and/or depression. A number of the programs with a strong evidence-base have been developed and evaluated in Australia, including FRIENDS (https://www.friendsresilience.org/about-us/) (Shortt, Barrett et al. 2001), Cool Kids (https://www.mq.edu.au/about/campus-services-and-facilities/hospital-and-clinics/centre-for-emotional-health-clinic/programs-for-children-and-teenagers), MoodGYM (https://moodgym.com.au/), and SPARX-R (Perry, Werner-Seidler et al. 2017). MoodGYM and SPARX-R are online depression prevention programs that have the added advantage of reducing teacher burden by offering automated programs that don’t require teacher training or expertise in mental health. The active promotion of evidence-based mental health prevention programs in schools is needed in Australia, rather than the provision of an exhaustive list of program with no assessment of their quality or effectiveness.

The delivery of treatment programs for child and adolescent anxiety and depression via the Internet also holds a lot of promise. A recent review (Ebert, Zarski et al. 2015) has highlighted a number of effective online interventions to treat anxiety and depression. Programs with strong or growing evidence in Australia include the BRAVE online programs (http://www.brave-online.com/), Cool Kids and Chilled Out (https://www.mq.edu.au/about/campus-services-and-facilities/hospital-and-clinics/centre-for-emotional-health-clinic/programs-for-children-and-teenagers). Programs
targeting parents of younger children (3-6 years) are also available (Cool Little Kids and Brave for Young Children) to assist parents in supporting a child presenting with early symptoms of anxiety. The provision of online treatment programs, as well as face-to-face interventions, is important. Online interventions provide parents and children with an alternative to face-to-face services, which may be necessary due to limited time during the work day to access services, the inaccessibility of services in some regions, long waiting lists and the high costs associated with some services. The active promotion of online programs to the Australian public through general practice, pharmacies and mainstream media may assist in increasing access to psychological treatment in this population.

The promotion of resilience and help-seeking behaviour in young people is also very important. One overseas program shown to be effective in supporting youth mental health in educational settings is Sources of Strength. This program was developed in the United States and uses a social connectedness approach to promote positive coping and help-seeking from trusted adults to reduce psychological distress and suicide (Wyman, Brown et al. 2010). Within the general school population, an evaluation of the program through a randomised controlled trial has found that the program increased acceptability of help seeking and improved student perceptions of support from adults for suicidal youth. We are currently trialling this program within an Australian context and aim to have results available at the end of the year (Calear, Brewer et al. 2016). Relatedly, it is also essential that parents, teachers and other gatekeepers of care for young people are offered adequate information and training to support the mental health of young people.

Lastly, the provision of mental health prevention programs is needed at both the primary and secondary school level. Intervening with young people early will likely prevent the progression of early symptoms of anxiety and depression into clinically diagnosable conditions and will teach skills that will protect young people from developing anxiety and depressive disorders in response to traumatic or stressful life events. One primary-school based program that has shown protective effects for mental health over the longer-term is the Good Behaviour Game (GBG). The GBG is based on the principle of behavioural and emotional regulation through delayed, shared reward (positive reinforcement) and was developed to reduce the life-long risk of mental disorders, improve behavioural problems and improve academic outcomes. Previous international studies of GBG have shown short-term benefits including improved academic skills and reduced disruptive behaviours (e.g., aggression, verbal interruptions and out-of-seat behaviours), while longitudinal studies have demonstrated reductions in smoking, substance abuse, psychological service use and suicidal ideation (Wilcox, Kellam et al. 2008, Kellam, Mackenzie et al. 2011, Nolan, Houlihan et al. 2014). A feasibility trial of GBG in Australia was recently undertaken by the Black Dog Institute. GBG demonstrates that early intervention, with Year two students, can have longer-term benefits and effect on mental health and should be strongly considered as a preventative approach to youth mental health problems in Australia.

**Ensuring strong policy framework and good governance**

CMHR is a regular contributor to national mental health policy debate, participating in state and federal government activities, as well as through Mental Health Australia. It is our strong belief that this policy development process should be as broad as possible, engaging both professional and lived experience, if mental health outcomes are to be fundamentally improved.
**Suggestions to develop actionable policy to guide effective practice**

The Learning and Development Unit at CMHR attempts to promote translational research in several ways. First, we are establishing the Expert Career Pathway (ECP) Health Systems Doctoral Program, a new pathway for structured support for experienced workers to convert workplace expertise into tertiary qualifications. By studying topics of real world concern, the Pathway aims to make the process of PhD qualification mutually beneficial to academia and workplaces. Our focus is on health systems translation to policy makers, planners and practitioners in the public sector – including mental health.

The Unit also runs a seminar series, in partnership with the Australian Health and Hospital Association, offering national and international speakers the chance to engage with local and national mental health organisations. We have very strong relationships with key local organisations, primary health networks, community groups, consumer and carer bodies and others. Engagement and partnership with these organisations and groups strengthens the research conducted at CMHR by incorporating expert knowledge into the scientific processes and output.

**Measurement and reporting of outcomes**

Many population-based measurement tools are used because they are familiar, rather than having optimal measurement properties for assessing clinical outcomes. Our team has developed rigorous new approaches to assessing a range of mental health outcomes in the community (Rosenberg, Hickie et al. 2015), resulting in more efficient and precise measurement tools that are freely available for use in clinical, community and research settings. Brief and accurate measures of distress, internalising psychopathology and specific anxiety and mood disorders are now available for use (van Spijker, Batterham et al. 2014, Batterham, Mackinnon et al. 2015, Batterham, Mackinnon et al. 2016, Batterham, Sunderland et al. 2016a, Batterham, Sunderland et al. 2016b). Our tools are being implemented in a range of settings to more accurately screen individuals who may be at risk for mental illness or suicide, tailor treatments to symptom patterns and monitor individual mental health over time.

CMHR has a focus on mental health and accountability – attempting to discern whether the mental health care provided to Australians is working (Rosenberg and Salvador-Carulla 2017). CMHR has also developed close relationships with a range of international organisations interested in better using big data sets to track and report population mental health, including INSERM in France, the University of Loyola in Spain and the University College of London (UK). CMHR is working with these partners to look for opportunities to test and trial tools already working in Europe designed to monitor outcomes and improve decision-making.
References


Australian Institute of Aboriginal and Torres Strait Islander Studies (2010). Guidelines for ethical research in Australian Indigenous studies. Canberra, Australian Institute of Aboriginal and Torres Strait Islander Studies.


National Health and Medical Research Council (2003). Values and ethics: Guidelines for ethical conduct in Aboriginal and Torres Strait Islander health research. Canberra, Commonwealth of Australia.


