MONASH University

TURNER INSTITUTE FOR BRAIN AND MENTAL HEALTH

Ms. Penny Armytage
Chair
Royal Commission into Victoria's Mental Health System

05-07-2019

Dear Ms. Armytage,

I thank you for the opportunity to contribute to the Royal Commission into Victoria's Mental Health System. The Commission is truly a once-in-a-lifetime opportunity to bring meaningful and lasting change to Victoria's mental health landscape and improve the lives of sufferers in Victoria. As Director of the newly-established Turner Brain and Mental Health Institute, I commend your progressive approach and would like to take this opportunity to identify clear points of synergy between your vision and the vision of the Turner Institute. I will do so by firstly providing some background on the Turner Institute, before outlining the steps the Turner Institute is taking to address the important issues canvassed in particular terms of reference.

The Turner Institute for Brain and Mental Health

Officially launched on July 2, 2019, the Turner Institute, much like the Commission, represents a once-in-a-lifetime opportunity to disrupt the unacceptable status quo. The Turner Institute is the first named Institute within Monash University and exemplifies the Monash ethos of '*if you don't like it, change it*'. The Turner Institute carries the name of Melbourne stockbroker and philanthropist Mr. David Winston Turner, who had a vision to leave a significant positive legacy and improve the lives of others battling mental health conditions in his community. The David Winston Turner Endowment Fund bequeathed a series of gifts to the University, beginning in 2015. The second of these gifts - worth $2.25 million - resulted in the establishment of BrainPark, a neuroscience-based research clinic co-located in the Monash Biomedical Imaging precinct. It is the first facility of its kind in the world, incorporating a variety of lifestyle intervention platforms alongside state-of-the-art brain imaging capability. The third and final gift was made in 2018 and amounted to over $40 million. This resulted in the establishment of the Turner Institute for Brain and Mental Health. Our vision is a world of mentally healthy communities. Our mission is to optimise brain and mental health through community-driven, world-leading research and innovation. We take a lifespan approach and want all members of our community developing well, living well and ageing well.

I will now outline the clear alignment between some of our exciting early initiatives and particular terms of reference of the Commission.

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1. How to most effectively prevent mental illness and suicide, and support people to recover from mental illness, early in life, early in illness and early in episode, through Victoria's mental health system, and in close partnership with other services.

Help for people when and where they need it most is crucial for early intervention and prevention. The rise of digital mental health technologies to effectively intervene early in life and early in illness should be a focal point of mental health policy. For too long, there has been only limited access to cognitive interventions that could benefit individuals at-risk of potential mental health problems, such as young children as they enter school or older individuals as they begin to cognitively age (before the onset of any neurodegenerative disorder such as dementia). Moreover, interventions have traditionally been behavioural or psychosocial in nature, requiring intensive therapeutic sessions that require available health practitioners and significant physical and financial resources. This model is unsustainable given the growing mental health needs in our local, remote and Indigenous communities.

At the Turner Institute, we are leveraging the power of innovative, scientifically-grounded digital tools to begin to address and prevent mental illness as early as possible, before there is a deleterious impact on life. This will take the form of a dedicated Community Digital Mental Health Platform, a library of digital tools embedded with artificial intelligence. These various evidence-based and engaging digital tools have been developed by our researchers for people in need in the community. This Platform will be the first digital infrastructure of its kind in Victoria and provide unprecedented access to evidence-based assessment, monitoring and treatment for individuals located in disadvantaged and remote regions.

Around the globe, digital mental health is receiving significant attention and investment. We would encourage the Commission to consider the potential therapeutic, economic and policy implications of this new form of accessible and scalable early intervention that could revolutionise the way we treat and prevent mental illness and suicide in Victoria.

2.2 How to deliver the best mental health outcomes and improve access to and the navigation of Victoria's mental health system for people of all ages, including through strategies to attract, train, develop and retain a highly skilled mental health workforce, including peer support workers.

Psychology is one of Australia's leading teaching disciplines of undergraduate students with approximately 12,000 graduates moving into the workplace each year. Currently, only 7% of undergraduate students transfer into postgraduate clinical psychology training. With so few going into postgraduate training, in part due to restrictions on placements and the costs of training, we are losing a wealth of psychological knowledge that could be redirected into the field of mental health. We suggest to the Commission that educators and policy-makers need to find creative ways of retaining these students from the Honours level. We must also provide opportunities for students to easily transfer to and train in

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parallel disciplines such as digital mental health, community advocacy and engagement, public health and mental health policy development.

2.5 How to deliver the best mental health outcomes and improve access to and the navigation of Victoria's mental health system for people of all ages, including through improved data collection and research strategies to advance continuity of care and monitor the impact of any reforms.

Brain and mental health researchers hold long-term, longitudinal studies in high regard. These studies allow researchers to monitor the impact of mental health interventions and elucidate risk factors for mental health conditions while still offering the opportunity to conduct 'deep phenotyping' of individuals through targeted assessment batteries and advanced analytic techniques. Although such studies are expensive to conduct and require cooperation from multiple stakeholders, Victoria has an excellent track record in conducting large scale, long-term cohort studies. This has inspired the Turner to develop a new cohort, named the 'Living Lab', in one of Victoria's most disadvantaged regions – Melbourne's South East corridor.

This large cohort will include populations of at-risk children and youth (4-18 years) (2000 participants); young adults (18-40) (1000 participants); middle adults (45-65 years) (1000 participants); and senior adults (65-80 years) (1000 participants). Participants will be assessed, monitored and treated across a 10-year cycle using innovative, scalable digital technologies. The goal of the study is to build resilient brains through early detection, monitoring and intervention. We want to know what are the precursors and predictors of vulnerability to mental health conditions and cognitive dysfunction on the one hand and on the other hand, how effective state-of-the-art, age-sensitive, gamified digital interventions are at reducing risk of developing mental health conditions and cognitive dysfunction. The intervention component of the study will have key Indigenous and refugee foci.

Building this new cohort is only possible because of the generosity of the David Winston Turner Endowment Fund. Its sustainment and expansion, however, will still require community, government, industry and philanthropic partnerships. We wish to highlight to the Commission the resources required to conduct such vital cohort studies and urge the Commission to think about novel ways of enabling visionary Victorian institutions, like the Turner, to use these kinds of studies to gather better data, allow digital care and monitor impacts of digital interventions in the future.

4.1 How to improve mental health outcomes, taking into account best practice and person-centred treatment and care models, for those in the Victorian community, especially those at greater risk of experiencing poor mental health, including but not limited to people from Aboriginal and Torres Strait Islander backgrounds.

The sad reality is that Indigenous Australians experience suicide and dementia at higher rates than other Australians and that Indigenous Australians are grossly overrepresented in the justice system. Indigenous status also compounds the structural disadvantage embedded within particular locales (e.g., parts of the Melbourne's South-East corridor,

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discussed above). For these reasons, a large focus of our Living Lab (outlined above) will be on better understanding and improving Indigenous mental health outcomes. To facilitate this, we have started to conduct research into the culturally sensitive translation of our discovery work. A recent review from Turner (Indigenous) researchers found that successful engagement of Aboriginal and Torres Strait Islander clients requires services and programs that are culturally safe and holistic; that integrate appropriate staffing; and that include culturally relevant activities and value patient experiences.

Of course, we are fortunate to have some excellent Indigenous researchers at the Turner to conduct this kind of work. Around Victoria and Australia, Indigenous researchers are severely underrepresented in brain and mental health research. This probably reflects the fact that less than 1% of Indigenous students are studying STEM at university and the 'brain drain' discussed above under term of reference **2.2**. It is also likely due to a lack of dedicated pathways in place for talented and disadvantaged Indigenous students. At the Turner, one of our first projects is to develop a formal pathway for Indigenous school-leavers to come to Monash and begin a journey to Honours and beyond in Psychology. This pathway will begin with targeted advertising to Indigenous school leavers and then entail undergraduate scholarships, dedicated internships, summer scholarships, Honours scholarships and doctoral top-up scholarships. While this model is unashamedly built on financial incentives for Indigenous students, we hope it will also signal our faith and confidence in those students moving through the pathway and inspire them to 'think big' about impacting Indigenous brain and mental health in their local communities.

We would encourage the Commission to consider how our, and similar, initiatives might be supported and extended in Victoria. Without our leading institutions having Indigenous brain and mental health researchers at the clinical and community coalface, our progress in improving mental health outcomes for people from Aboriginal and Torres Strait Islander backgrounds is likely to lag.

4.2 How to improve mental health outcomes, taking into account best practice and person-centred treatment and care models, for those in the Victorian community, especially those at greater risk of experiencing poor mental health, including but not limited to people living with a mental illness and other co-occurring illnesses, disabilities, multiple diagnoses or dual disabilities.

It is no overstatement to say that psychiatry is undergoing a paradigm shift. The influence of the DSM meant that, for many years, individuals' symptoms and particular disorder label assigned were paramount to our understanding of their mental health condition. We also tended to see individuals as having a particular clinical disorder or not (a categorical approach). A new framework, developed by researchers from the National Institute of Mental Health in the United States in 2010, challenges this approach. It advocates for mental health researchers and clinicians to 'look under the hood' for common, transdiagnostic brain circuit and network dysfunction, rather than continuing to focus on surface-level clinical disorders. The new framework – the Research Domain Criteria (RDoC) – encourages isolation of and intervention on some core neurocognitive

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processes (e.g., habit learning) that, when dysfunctional or exacerbated beyond the normal range, seem to be central to co-occurring, but sometimes superficially unrelated, disorders (e.g., schizophrenia and OCD). Instead of researchers examining commonly co-occurring disorders like ADHD and Autism Spectrum Disorder separately, it now accepted that the more promising approach is to attempt to uncover their common genetic and neurocognitive underpinnings. The same can be said for addictive and antisocial behaviours, where the *endophenotype* of 'impulsivity' (in its various dimensions) putatively acts as a common driver of these superficially distinct behaviours.

In line with this thinking, Turner researchers have developed novel, innovative digital tools that measure, in an engaging way, neurocognitive processes thought to underpin a host of disorders and disabilities. For instance, TALI Train © is a gamified attention training program for children that builds the *selective attention*, *attentional control* and *response inhibition* so often underdeveloped in children with ADHD, Autism Spectrum Disorders and other intellectual disabilities. Similarly, our addiction researchers have developed novel, gamified digital tools that tap into the cognitive and affective processes that go awry (e.g., *delay discounting* and *cost-benefit decision making*) during the transition to drug and gambling addiction.

The Turner Institute encourages the Commission to consider this paradigm shift when thinking about how best to promote scientifically-rigorous, person-centred approaches to treating individuals with multiple diagnoses. Continuing to treat people on the basis of their assigned diagnosed label(s), instead of the neurocognitive and neuroaffective processes that are either dysfunctional or exacerbated (for whatever biopsychosocial reason), is inconsistent with both personalised and precision medicine and unlikely to yield optimal outcomes for individuals.

4.3 How to improve mental health outcomes, taking into account best practice and person-centred treatment and care models, for those in the Victorian community, especially those at greater risk of experiencing poor mental health, including but not limited to people from rural and regional communities.

People in rural and regional communities are at a distinct disadvantage when it comes to accessing quality mental health support. There is a huge opportunity for Victoria to significantly invest in telehealth and digital mental health services to overcome the tyranny of distance that renders regional and rural individuals, often located in communities rife with substance abuse, more vulnerable to developing mental health conditions. While it is for policy-makers to determine the details of any investment, a central part of it should involve incentivising the incorporation of telehealth and digital mental health training into current medical, neuropsychological and clinical psychological educational pathways and developing the next generation of digital mental health practitioners.

At the Turner Institute, we are showing that telehealth and digital mental health initiatives can make a real impact. We have focussed on bringing teleneuropsychology to individuals who have stroked-related cognitive, behavioural and mood impairments. Only 6% of this population currently access any psychological service despite approximately 50% of stroke

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survivors experiencing cognitive impairment and 30% experiencing mood impairment. Given that it is simply not feasible for these individuals to obtain consultant neuropsychology services from metropolitan Melbourne, we rolled out in 2017 the pilot version of the Monash TeleNeuropsychology Service. Success with the pilot led to further State government funding and now we have three clinicians providing teleneuropsychological support to four sites: Echuca Regional Health, Albury Wodonga Health, NorthEast Health (Wangaratta) and LaTrobe Regional Health. The key objectives of the service are to:

- Develop ever-more effective methods to deliver teleneuropsychological assessment and treatment.
- Build capacity within neurorehabilitation teams to manage cognitive and mood impairments.
- Improve detection rates and treatment quality of cognitive and mood impairments.
- Demonstrate the potential economic benefits and sustainability of the service.

Evaluation data indicates that quality of patient care has greatly improved. In the 12 months before the service was implemented, no stroke patient at any of our sites received any assessment or treatment for mood and cognitive impairment. In the 12 months post-implementation, 2 in every 3 stroke patients were receiving assessment and treatment for mood and cognitive impairment. This supplemented patients' physical rehabilitation and likely enriched it. Economic simulations indicated that service costs were approximately half that of an equivalent face-to-face service.

In light of this success, we plan to expand to additional rural hospitals, community rehabilitation teams and dementia settings. I echo the CSIRO's recent recommendations in their *Future of Health* (2018) report to expand telehealth services and urge the Commission to consider how we might seriously enable rapid growth of telehealth and teleneuropsychology in Victoria.

In conclusion, I wish to again reiterate our gratitude in being able to provide our perspective on the great mental health challenge in Victoria and look forward to the Commission's interim and final reports. I would welcome the opportunity to further discuss with the Commissioners anything contained within this submission.

Yours sincerely,

Professor Kim M. Cornish BSc(Hons) PhD, FASSA
On behalf of The Turner Institute for Brain and Mental Health and Monash School of Psychological Sciences

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