Submission prepared by

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We thank the Productivity Commission for preparing a comprehensive draft report on the much-needed reformations in Australia's healthcare system to combat the burden of mental disorders. The draft report also raises some important remaining issues to which we contribute our recommendations.

Summary

There is a great body of scientific evidence showing a bidirectional association between mental and sleep disorders. In addition to this two-way association, sleep disturbances are also a unique prospective risk-factor for mental disorders. We propose it may be relevant to amend the Commission Report by outlining sleep disturbances as a risk factor for the development of mental disorders and list the evidence for cost-effective interventions on sleep and its impact on prevention.

Recommendations

Here we outline our responses to the issues and questions raised in the issues paper.

Assessing current and potential interventions to improve mental health outcomes (page 10)

Current psychotherapeutic treatment for depression and anxiety fails in 80% of cases (Cuijpers et al. 2019), and it has been recognized that preventive intervention programs for *at-risk* individuals can have a much greater chance of success than intervening after the mental disorder has developed (Cuijpers et al. 2012). The primary intrinsic risk factor for depression and anxiety is *insomnia* (Cole et al. 2003, Taylor et al. 2014, Hertenstein et al. 2019), a disorder of poor sleep and daytime impairments that affects ~10% of the population (Morin et al. 2015) and its incidence is on the rise (Chaput et al. 2018). Treatment for insomnia with cognitive behavioral therapy for insomnia (CBT-I) also treats psychiatric comorbidity (Smith et al. 2005, Taylor et al. 2014, Christensen et al. 2016). Furthermore, strong associations exist between mental disorders and sleep apnea (Garbarino et al. 2020) and various parasomnias (Waters et al. 2017). *In the commission's efforts for assessing potential interventions to improve mental health outcomes, our recommendation is to include assessments on sleep interventions for sleep disorders such as insomnia disorder, sleep apnea, and parasomnias which can treat and may even prevent the onset of mental disorders.*

Structural weaknesses in healthcare (page 13)

The major issues in current healthcare are poor detection rates of people with a mental disorder and lack of available interventions. Only 1 in 5 cases of depression are detected, and of those, only 1 in 6 obtain a good outcome with psychotherapy (Cuijpers et al. 2019). This calls for innovative approaches for early detection of at-risk individuals and offering them preventive interventions. In this context, insomnia is a major prospective risk factor for mental disorders (Cole et al. 2003, Taylor et al. 2014, Hertenstein et al. 2019). *In order to combat the poor detection rates, we recommend for health care*

providers to recognize that people with sleep disturbances, and insomnia in particular, are vulnerable to mental disorders and should be prescribed with appropriate first-line treatment.

However, the first-line treatment for insomnia (CBT-I) is not widely available. As a result, the vast majority of consults (90%) with GPs results in inappropriate prescription of pharmacotherapy (Miller et al. 2017) which does not treat insomnia in the long-run and leaves patients at risk for mental disorders. This is a consequence of relatively poor sleep health education for clinicians, structural anomalies in the health system that favour rapid turnover of patient visits, and availability and awareness of CTB-I. This is unfortunate since CBT-I also treats depression and anxiety (Smith et al. 2005, Taylor et al. 2014, Christensen et al. 2016). Moreover, CBT-I is a cost-effective strategy (Thiart et al. 2016) with proven impact on wellbeing, productivity and reduced absenteeism (Espie et al. 2019). In addition, *online* CBT-I (Christensen et al. 2016) is widely available and could easily reach patients in regional and remote areas. *This requires mental health services in community settings, but also in residential care and local pharmacies to become proficient in providing (online) CBT-I.*

Skills acquisition, employment and healthy workplaces

Normal sleep is essential for cognition, memory and learning. These domains are negatively impacted by sleep disturbances (Rasch et al. 2013). People who study or are entering the workforce require their full cognitive capacity to adequately learn new skills and knowledge, yet they often experience insufficient sleep. Importantly, normal sleep is also required for adaptive emotional learning (Wassing et al. 2019), which fails in insomnia (Wassing et al. 2016). Furthermore, insomnia leads to work absenteeism that these patients attribute to their sleep problems (Reynolds et al. 2017). Not only does this impact on productivity, but also on safety. Occupations in emergency services, healthcare and transport are critically dependent on vigilance to prevent casualties and yet, especially these occupations are performed by shift workers and include long working hours with negative consequences on sleep and mental health (Afonso et al. 2017). *We recommend that the Commission Report includes the evidence for the role of good sleep in learning new knowledge and adaptive emotional responses that positively contributes to the individual's capacity to perform their occupation, as well as evidence of the negative consequences of sleep disturbances in this context. Secondly, the Commission Report may highlight the relationship between sleep disturbances, impaired work productivity, shift work and mental disorders, especially in occupations that require vigilance to maintain a safe workplace.*

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