Productivity Commission Submission into Mental Health

The Australasian Sleep Association (ASA) is the peak scientific body for sleep health in Australia and NZ comprising sleep clinicians, scientists and researchers. The ASA commends the Productivity Commission for the comprehensive draft report recommending far reaching and innovative reforms to improve the mental health and wellbeing of the Australian population, and is grateful for the opportunity to present at two of the Public Hearings reviewing the Draft Report of the Productivity Commission Review.

Prior to the hearings 2 documents were forwarded:
1. The **ASA submission to the Commission** (submission 96) which highlights the large body of scientific evidence linking mental health to sleep loss and sleep disorders. This may have relevance to the Commission Report in outlining sleep disturbance and sleep disorders as risk factors for the development of mental health disorders and importantly, avenues for cost-effective early intervention and treatment to prevent the development of mental health disorders.
2. The **Parliamentary Inquiry into Sleep Health Awareness** (Bedtime Reading) handed down in April 2019. Called by Federal Health Minister Hunt, undertaken by the Standing Committee on Health, Aged Care & Sport chaired by MP Trent Zimmerman. The report received Bipartisan support and over 130 submissions with 11 recommendations to improve sleep health in Australia. The first recommendation is that sleep be recognised as a national health priority, the 3rd pillar of good health (along with diet and exercise). Four out of 10 Australians are not getting the sleep they need, with an annual cost to the economy of $66 billion. There are 3 key recommendations that the ASA and our sister organisation the Sleep Health Foundation, are working to have implemented which has relevance to the current Commission Report, specifically in the areas of early intervention, prevention and workplace safety.

The following is an outline of the two presentations made on behalf of ASA.

Public Hearing Melbourne 18.11.19

A/Prof Alan Young, President

I would like to note that a search of the current Draft Report into Mental Health revealed **no reference to sleep health** or the ASA submission and the only consistent reference to the word 'sleep' was in the section on homelessness in relation to 'sleeping rough'.
In the interests of time, I will briefly refer to **3 areas** to highlight the inextricable link between mental health and sleep which have a complex bidirectional relationship.

1. Insomnia and depression

Insomnia affects up to 10% of the adult Australian population (Hillman & Lack, 2013). Insomnia is a significant predictor for the development of depression (OR 2.8) (Hertenstein, 2019- systematic review and metanalysis). Depression also predicts future risk of insomnia. Depressed patients with insomnia have worse response to treatment with higher relapse rates. Insomnia treatment, cognitive behavioural therapy (CBTi), is evidence-based and cost-effective (Wickwire, 2016) yet only 5% patients presenting to GP's receive appropriate treatment, 90% receive a sedative prescription (Charles, 2009, BEACH data). In patients with insomnia and depression CBTi is as effective as anti-depressant medication for treating depression (Cunningham & Shapiro, 2018). Early detection and treatment of insomnia (with or without comorbid depression) is likely to have a significant impact on reducing the burden of disease related to depression.

2. Sleep loss in children and adolescents, suicide risk

Poor sleep is linked to poorer current and future mental health (Vic Health Promotion Foundation, Sleep and Mental Wellbeing, 2018). Adolescents have a delayed sleep phase/ body clock (circadian rhythm) with social pressures for later bedtime (digital devices) and 10-30% have sleep problems. Sleep interventions in school improve sleep and mental wellbeing (Paterson, 2017). Poor sleep is also a risk factor for suicide. In a recent systematic review, sleep disturbance was associated with increased impulsivity and increased risk of unplanned suicidal behaviour (Porras-Segovia, 2019).

Excerpts below from the 'Bedtime Reading' report (p20):

2.50 Similarly, the National Mental Health Commission (NMHC) stated that there are 'clear and compelling reasons that indicate the close link between sleep health and mental health.' The NMHC explained that 'sleep deprivation can further contribute to the development of mental illness by lowering an individual's resilience to respond to mental health problems.'

2.51 The National Mental Health Commission (NMHC) also drew attention to research indicating a 'strong correlation between sleep disturbances and suicidal ideation and behaviours.' The NMHC cited a 2017 study which found that 'sleep problems worsened suicidal thoughts in the ... days and weeks preceding a suicide attempt or suicide completion.' The NMHC added that 'complaints about sleep may serve as a warning sign and key risk factor, while providing an avenue for early intervention and prevention.'

3. Work, sleep and mental health

Longer working hours are associated with poorer sleep and increased symptoms of depression and anxiety. 10-15% of Australians are shiftworkers, often in safety-critical occupations (emergency workers, health, commercial drivers). Sleep loss and circadian misalignment result in shift work sleep disorders characterised by work accidents, lowered mood, anxiety and increased cardiovascular risk. Standardised appropriate work hours (Afonso, 2017) are critical to maintain mental health. Workplace safety should include safe working hours including adequate time for sleep, optimal rostering and standardised work hours.

The Productivity Commission report section 19.1 19.2 highlights the importance of psychological health and safety in the workplace- issues include workplace health and safety laws, employer codes of practice, return to work policies.

***4. Obstructive Sleep Apnoea (OSA) and depression, improvement with treatment**
Multiple studies have demonstrated that OSA is an independent risk factor for depression (Kerner, 2016). The landmark SAVE trial demonstrated that treatment of moderate to severe OSA with continuous positive airway pressure (CPAP) reduced rates of depression by 30% (McEvoy, 2016). Given OSA affects 10-15% of the adult population there is huge potential to improve mental health by treating OSA.

Suggestions by the ASA (for consideration in next iteration of Productivity Commission Report) to improve sleep and mental health, focusing on early intervention and prevention:

I. The Commission report recognises the importance of sleep loss and sleep disorders (eg insomnia) as significant risk factors for the development of mental health disorders.
II. An education and intervention program for sleep loss and sleep disorders are embedded in the proposed stepped model of care by the Commission (patient self-help, lower level intervention, GP, psychologist, specialist) including online resources.
III. The early intervention in schools program should include sleep education for teachers and students.
IV. The Commission report endorse the recommendations from the Parliamentary Inquiry into Sleep Health Awareness (Bedtime Reading) that are likely to positively impact on mental health:
A national public behavioural change campaign to improve sleep health (recommendation 8).
A primary care practitioner sleep health education program including GP's, psychologists, nurses, pharmacists and dentists (recommendation 9).
National guidelines for shift work safety and work hours (recommendation 2, 3).
V. Ongoing training and funding for psychologists specialising in sleep/ sleep disorders to improve patient access (eg NHS program 2018 with increased access to CBTi).
VI. Equitable access to CPAP therapy for the financially disadvantaged is recommendation 5 of the Parliamentary Inquiry. Implementation of this recommendation will lead to improved mental health for the Australian community.

** Addendum to original presentation*

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Public Hearing Melbourne 25.11.19

A/Prof Delwyn Bartlett RN, RM, PhD & Health Psychologist, University of Sydney & The Woolcock Institute of Medical Research

The Impact of Poor Sleep & Mood

- Sleep occurs every 24 hours and it is a time for us not to be responsible, to have time out; not to think or feel and when we do not experience this we are compromised in terms of performance outcomes and mood.
- A systematic review and meta-analysis (Hertenstein et al., 2019) found insomnia is a significant predictor for the onset of depression (OR 1.35); anxiety (OR 3.23); alcohol abuse (OR 1.35); and psychosis (OR 1.28); The authors stressed the need for more prospective studies along with more long term intervention studies. Sleep promotes learning and neuroplasticity.
- There is a strong bidirectional relationship between Insomnia and Depression (Sivertsen et al., 2012). This was from an 11 year prospective study of almost 25,000 participants. Prior to 1996 (Breslau et al., 1996) insomnia was perceived as being merely a symptom of depression. Since the publication of that seminal study there have been a number of studies identifying how sleep disturbance if often a prodromal symptom of another depressive episode or the onset of a new depression. Insomnia & depression need to be treated equally.
- **Sleep is important across the Lifespan** – if we start in the perinatal period where sleep is disrupted during pregnancy with nausea and morning sickness, increased heat, the discomfort due to the growing foetus – a long labour or an unplanned outcome of a Caesarean Section & possibly a baby that does not feed well.
- ***"When a baby is born a mother is born who equally needs parenting and attention along with their partners"***
- Equally important is the overwhelming fatigue that occurs with shortened disrupted sleep and desperately wanting some consolidated sleep as new parents attempt to manage the care of their baby. The first 6-12 weeks is survival course – family & relationship dynamics upended and the potential of post-natal depression (PND – range of 15-35%) for the mother and potentially the other partner especially if there is a history of previous depression/anxiety

- Issues of childhood sleep and mood covered by other presentations by Child Psychiatrists & the issues of involving more Mental Health Nurse training; we also need to consider how the child adapts to day care, school and the playground. They experience long days and these children get very tired but many will not have the opportunity to sleep long enough for their needs. The role of worry and anxiety around family school and the environment is huge.
- Adolescence is the "perfect storm" of increased homework – staying up late – phones – social media – hormones and mood and pushing the boundaries with parents. Circadian Rhythm misalignment in the form of Delayed Sleep Phase Disorder is common either from an intrinsic perspective or behaviourally related.
- Adulthood – study and the workplace – often travelling long distances - traffic; shift work (>20%) and or high pressure jobs; parenting…… increasingly working longer hours
- Middle Age and the effects on health – increasing weight – possible onset of obstructive sleep apnea – left untreated is a risk factor for cardiovascular disease (Javaheri, et al., 2017; diabetes type II (Sivertsen et al., 2014); and depression; other significant changes include menopause; dealing with the care of aging parents – costs and time needed to do this realistically. Worry and anxiety as night is often the first time in the day to mull over these factors.
- Over 60 years – increasing health related factors and interactions of medications on sleep; still not enough emphasis on diet and exercise in relation to a healthier lifestyle. It is around this stage of life the prevalence of insomnia increases with age. Yet research (Vitiello 2009 & Vitiello et al., 2002) found that in individuals who are active mentally and physically, the prevalence of insomnia is that same as the general population. Good information is needed to negotiate these age related changes. GP's are still medicating 94% for insomnia compared with 2% referred to psychologists (Beach Report., 2009; Miller et al., 2017)
- Increasing Age – has an effect on all aspects of the functioning of our bodies and brain. A critical role of sleep is in clearing the build-up of toxins such as Amyloid-B (Bakkeret al., 2016) which is associated with dementia. Yet overall this is an area where until recently there was little research. Increasingly there has been a tendency to overmedicate and prescribe hypnotics when a more realistic approach around sleep would be more beneficial with increasing age. Hypnotic usage is associated with increased falls and confusion in the elderly.
- With all that is happening between the ongoing Drought and now the Fires - how can we improve access to better health care in Rural Communities? Financial issues, isolation and lack of access to care along with the high risk of suicide - all of which impact on sleep and sleep impacts on how we respond and perform. We need access to better support and trained staff.

There is little understanding of sleep across the lifespan and many aspects of sleep out there in the community are inaccurate leading to unrealistic expectations and increasing anxiety around sleep. The biggest myths to explore are:

- Waking is normal and healthy 24 year olds will wake 2-3 times per night every night; It is the length of the wake that we find so distressing
- We cycle through the stages of sleep every 90 mins with the range being 70-100 mins
- We spend most of the night in relatively light sleep (45-55%) – probably an evolutionary factor - we need to move and to check our environment; we only spend approximately 20% of the night in deep sleep and this decreases with increasing age
- Dream sleep is not deep sleep but is a very active brain state from which we can easily be woken and this takes up approximately 25% of the night.

Recommendations: to explore and expand the sleep interventions we already have in place through more practical funding. These interventions include:

1. Sleep being a primary component of all pre-natal programs. We have good pilot data on the effectiveness of such an intervention that could be rolled out with special emphasis in identifying women more at risk in term of mental illness. To expand programs which also help mothers at risk after their babies are born. Organisations such as Three Bridges train volunteers in providing practical help (shopping and assisting mother to get to psychology appointments, in house respite for mothers to allow them to sleep, supervising of older children).This provides early intervention and critical support of vulnerable mothers in the early months who have mental health issues or who are isolated and at risk.
2. Educational initiatives of how to make good sleep a fun thing to do with school age children and how to set boundaries around sleep. In high school we can only give information but when presented more as a life/health choice along with the role of diet and exercise and valuing sleep we are at least putting that information out there.
3. Training Practice Nurses in the Community and in particularly in rural areas. Practice nurses have wonderful motivational skills. Our research exemplified their professional skills at encouraging patients to learn to deal with the onset of different diseases with increasing age. They underwent CBT training for insomnia with significant improvements in sleep outcomes over a 3 month period. They were also supported by the GP Practice in which they worked and stated how much they enjoyed putting their skills into a new area of medicine.
4. Need for sleep to be an integral part of psychology training; we are currently upgrading sleep modules with the Australian Psychological Society - joint venture with the Australasian Sleep Association – improving sleep is not just about "sleep hygiene" but is based on research which can then be applied in good clinical practice. Cognitive Behavioural Therapy for insomnia is not just CBT but requires additional training.
5. Training for Pharmacists has been in place through Sydney University for many years and is a great example of a Stepped Care approach in sleep training and education
6. Healthy Brain Aging Clinics with BMC and University of Sydney – Woolcock Institute instigated programs for sleep in this clinic along with a sleep intervention for individuals with Parkinson's Disorder where not only is sleep compromised but increasing mood difficulties are very common.
7. Overall we need to value sleep - set aside time to sleep yet achieve a realistic balance with our families, work and use our night time "to let go of the day" where it is not a time of thinking, worrying, planning or connecting with others through our phones. Preventative strategies in areas of high risk such as insomnia are extremely important and this is where we need to focus more.

AY/SMB