Dear Committee Members,

RE: Submission to the Inquiry into Sleep Health Awareness in Australia.

This document has been submitted on behalf of the Australasian Sleep Technologists Association (ASTA). ASTA has been in existence for 30 years, being formed in 1988, and works alongside the Australian Sleep Association. The mission of ASTA is to provide a representative body to sleep professionals - such as sleep scientists and allied sleep professionals - to facilitate and encourage communication, education and professional development of its members. Our role in the community is to conduct and analyse sleep studies, carry out sleep-related research and to educate, optimise and support patients undergoing treatment for sleep disorders, in association with the treating physicians. We play an integral role in the current and future developments in sleep medicine and strongly support this inquiry into sleep health awareness. ASTA members are in a unique position to reflect on this, given their specialised skills and knowledge in relation to sleep, and their direct contact with community members who are uneducated about sleep and sleep disorders, both in the clinical and research settings, and during their day to day interactions in the community.

We therefore thank the Hon Greg Hunt MP and the Committee for giving us the opportunity to express our concern about the inadequacy of the current general knowledge of the importance of sleep, of obtaining adequate sleep, and of untreated sleep disorders in the general Australian community.

In regards to the terms of reference, ASTA will be addressing the points most relevant to our position: 1, 2 and 3.

1. The potential and known causes, impacts and costs (economic and social) of inadequate sleep and sleep disorders on the community

Sleep disorders, such as sleep apnoea, are major contributors to inadequate sleep. Chronic sleep restriction, due to lifestyle choices, family and work pressures is also a society wide issue.

According to the 2016 Sleep Health Survey of Australians, 33-45% of Australian adults report inadequate sleep [1]. Inadequate sleep can lead to a wide variety of public health concerns, which can impact on all Australians. These include increased risk of road accidents, mental health issues, chronic disease, all of which is costly to the health budget, the individual, and society. For example:

- Inadequate sleep can impair decision making, similar to that of the effects of alcohol [2]. Poor decision making affects all sectors of society, from parents of young children (eg the tired Father who accidently locked his child in the car in 40 degree weather, 18th Jan 2018) to medical staff making
errors due to sleep deprivation [3], and business and government leaders making poor decisions after working late.

- Inadequate sleep can increase the risk of road accidents, for example, in young drivers (18-25yo) who are inexperienced [4].
- There is a bidirectional relationship between sleep disturbance and mental health issues, including anxiety, obsessive compulsive disorders, post-traumatic stress disorder and schizophrenia [5].
- Reduced sleep duration can impair glucose tolerance, contributing to the chronic condition of diabetes [6].
- Short sleep duration is associated with obesity, an increasing major public health issue.
- For those with chronic obstructive pulmonary disease (COPD), and other respiratory issues, sleep is the period of greatest physiological disturbance, and is when patients experience the worst respiratory situations. [7] This information is often overlooked and underrecognised. By treating patients breathing during sleep, many recurrent expensive hospital admissions, chronic illness and untimely deaths may be avoided.
- Increasingly, inadequate sleep is being liked to Alzheimer’s Disease and other neurodegenerative disorders as the protein waste products that build up in the brain over the course of the day are incompletely removed.

Children with inadequate sleep, or fragmented sleep due to sleep disordered breathing and snoring are known to:

- have difficulty retaining knowledge,
- keeping up with their peers,
- Difficulty concentrating,
- Demonstrate a higher incidence of school transition and externalising behaviour problems.

Adolescents are faced with a number of challenges in regard to sleep. Adequate sleep for this age group is necessary for consolidating knowledge learnt at school each day, for pubertal growth hormone to be released during sleep, for maintenance of mental health, and to ensure sufficient sleep to carry out social and family obligations and to learn to drive. Adolescents are biologically driven to later bed times and wake times due to delayed melatonin release, yet societal norms and social pressure requires them to be both up early for school, and also to be available late in the evening via social media. A number of research studies have demonstrated improvements in academic performance when school start times are delayed [8-10].

Success of programmes focusing on sleep in children: Programmes regarding sleep, in the community has been shown in research studies to:

1) Improve the sleep of mothers and babies, if education is provided during pregnancy [11].
2) Increase sleep duration and grades of school age children [12].
3) Reduce the risk of SIDS after education regarding the role of co-sleeping (ie, sharing sleeping space).
4) If school start times are later, adolescents sleep duration increases and academic grades improve [13].

Our sporting performance can also be impacted by inadequate sleep, with evidence showing long term focus on adequate sleep can improve performance in elite athletes [14].
RECOMMENDATIONS:

- **Recognise sleep as the THIRD PILLAR OF HEALTH in all government publications.** Provide public health awareness campaigns for healthy sleep. Incorporate sleep with the other two pillars of health - nutrition and physical activity, with other health recommendations on Department of Health website, and other publications.

- **Include sleep health in pre-natal, pre-school, primary school and high school curriculums, in the same manner as healthy eating and exercise.**
2. Access to, support and treatment available for individuals experiencing inadequate sleep and sleep disorders, including those who are: children and adolescents, from culturally and linguistically diverse backgrounds, living in rural, regional and remote areas, Aboriginal and Torres Strait Islander;

**Access to sleep testing (children & adolescents):**

The number of sleep studies performed under the medicare system for adults has been rising, with an increased awareness of sleep disorders in the adult community, however this is not true for children and adolescents. Home sleep studies can be performed for adults, but not for children. The below graph, generated from publicly available data on the medicare website shows the severe lack of access to paediatric sleep services, and the minimal increase to access for the past 15 years:

![Medicare Claimed Sleep Studies Graph](image)

**Access to sleep testing and therapy – People living in remote communities**

Due to the specialised equipment and skills required, sleep studies, and support for those with sleep disorders are limited to cities and major regional centres. Access to treatment and ongoing support for long-term treatment for sleep disorders is almost non-existent in areas outside these centres.

People who are suspected of having sleep disordered breathing, who are sleepy because of their condition, often have to drive vast distances to access sleep services, if they are able to make the drive. It is not uncommon for patients to have driven from Broken Hill, Lightning Ridge or Dubbo to Sydney to have a sleep study performed, sometimes a 2 day drive. This places the patient at risk of driver fatigue, with the addition of an untreated sleep disorder, thereby increasing the risk of a traffic accident. This is also an expensive trip for these patients.

Regional and remote Australian residents access diagnostic sleep studies at a rate less than Australia overall (31 versus 575 per 100,000 per year), thereby reflecting the difficulties faced by our remote Australians in accessing sleep health services [15].

The use of at-home sleep studies in non-metropolitain centres have allowed an increase in access to these types of sleep studies to allow for diagnosis. At-home sleep studies can be performed for patients with a high likelihood of sleep disordered breathing, in the absence of any other significant medical condition.
There are, however, many patients who need further investigations for diagnosis, which must be performed under supervision in a specialised sleep unit. This includes patients with narcolepsy, parasomnias, idiopathic hypersomnolence, periodic limb movement, nocturnal hypoventilation and REM behaviour disorder. Diagnosis of these conditions require a more comprehensive diagnostic sleep study, and in the case of narcolepsy and idiopathic hypersomnolence, a daytime sleep study, which is performed by sleep technologists/physiologists or nurses specialising in sleep medicine, alongside sleep physicians. **Access to sleep services offering comprehensive testing, and also consulting specialised sleep physicians with appropriate knowledge regarding these and all other sleep disorders is often difficult for those living outside metropolitan areas.**

According to a research study performed in 2005, **Indigenous Australians are 1.8 times more likely to have obstructive sleep apnoea compared with non-indigenous patients.** This varied by region, with those in central Australia 1.6 times less likely and those in far north Queensland 3.4 times more likely[15]. However, **a lack of knowledge influences Indigenous health care seeking related to OSA.** Uptake of CPAP therapy, and persisting with treatment is strongly influenced by support from family and friends [16]. Thus education for all members of the community, not only those with sleep apnoea, would greatly assist in treatment and ongoing adherence to treatment, which contributes to the prevention of other chronic conditions such as cardiovascular disease, I required.

**RECOMMENDATIONS:**

- **Improve access to sleep studies for children** by either opening new paediatric sleep units, or increasing sleep study opportunities at existing sleep units. This includes increasing the number of medical, nursing and technical staff to conduct studies, and also to provide ongoing support for long term therapy.

- **Provide outreach services to remote communities for sleep health.** This would include increased access to diagnostic services and treatment for sleep disordered breathing, as well as training community nurses and Indigenous health workers about sleep, sleep disorders, methods to improve adherence to treatment for sleep disorders, and behaviour based methods to reduce insomnia.

- **Improve equitable access to treatment for sleep disordered breathing for all Australians.** The cost of treatment for sleep disordered breathing is often a significant barrier. Only one type of treatment, CPAP, may be supplied for those on limited incomes as determined by the state or even by the local hospital. CPAP is straightforward and effective treatment for sleep apnoea, and should be federally funded. Other methods of treatment, including mandibular advancement splints, position treatment devices, which are suited to some patients, are not supported by any local, state or federal funding. Subsequently, patients often go untreated, these should be federally managed alongside CPAP therapy.
3. Education, training and professional development available to healthcare workers in the diagnosis, treatment and management of individuals experiencing inadequate sleep and sleep disorders;

*All health workers need to recognise the importance of sleep as the third pillar of health.* Basic education in normal sleep, good sleep practices, and the basic signs of sleep disorders should be taught in all health related fields. Health workers employed in public health should have access to educational material regarding sleep, which is not currently available.

The role of sleep in recovering from illness is well known in the general community, however, patients in hospitals often have very disturbed sleep due to noise, light, other patients, and observations, inherent in hospitals. This can lead to an increase in falls, longer recovery time (and longer length of stay), and can impact on mood. Educating and empowering hospital staff to ensure their patients have adequate undisturbed sleep may reduce recovery time and reduce hospital stays.

CPAP, the most effective therapy for sleep apnoea, is commonly used in the community, however, many health workers, both in the community and also those who care for patients while they are in hospital, are unfamiliar with this therapy. *Educating GP’s, community nurses and pharmacologists is PARAMOUNT to ensure patients in the community are adequately diagnosed and treated for sleep disorders.*

Sleep scientists/physiologists, and nurses specialising in sleep medicine, who work together with sleep physicians, have specialised skills to perform testing to diagnose patients with sleep disorders. They are also often responsible for determining the most appropriate therapy settings for those with sleep breathing disorders, and provide on-going support for this life-long therapy.

**RECOMMENDATIONS:**

- Include sleep education as part of the standard undergraduate curriculum, for specialities such as nursing, occupational therapy, social work, medicine, pharmacy, dentistry, psychology.
- Develop online training modules for health professionals, regarding normal sleep, sleep disorders, and CPAP therapy. Ensure community based nurses and other health professionals in the community have access to this training.
Closing Remarks

Sleep is fundamental to our quality and quantity of life. It is therefore imperative that we educate and promote adequate sleep in all populations across Australia by integrating programs into multiple facets of everyday life. In our submission we have focused on educational programs that not only span from primary to tertiary levels, but also those at the front line of healthcare (GPs, nurses, and pharmacologists). Increased access to sleep services is also crucial for the appropriate treatment and care for patients suffering sleep disorders; for supporting continuity of care for patients, and also as means of monitoring sleep disorders in Australia and the impact of any public health initiatives that may be implemented as a result of this inquiry.
REFERENCES: