



Submission on the Draft National Preventive Health Strategy 2021-2030

Sleep Health Foundation

19 April 2021

To improve people's lives through better sleep

The Sleep Health Foundation is a not for profit health promotion charity that aims to raise community awareness about the value of sleep and its common disorders, and to improve public health and safety.

We strive to deepen community understanding of the importance of sleep for health and performance; why sleep disorders need professional diagnosis and treatment; and to provide information about common sleep difficulties and how to address them.

Sleep disturbance, fatigue and human resilience: Targets for an effective implementation of a National Preventative Health Strategy (NPHS)

A submission by the Sleep Health Foundation

Key points:

1. Australians prioritise the importance of 'getting enough sleep' and 'having energy' (page 28, NPHS draft), yet 4 out of 10 Australians report inadequate sleep (1)
2. Sleep disturbances and impaired alertness, or fatigue as it is commonly described, are pervasive in society, particularly affecting the most vulnerable including people with mental health conditions (focus area 7) and drug/alcohol abuse (focus area 6).
3. Sleep disturbances significantly impair emotional regulation and intrinsic motivation as core components of human resilience, an essential aspect to achieving modifiable behaviours that improve health.
4. Mental health conditions exhibit bidirectional effects in relation to sleep disturbance. Interventions that address sleep disturbance improve mental health, which are proven and uncontroversial.
5. Poor healthcare provider and community awareness on sleep health as well as resource constraints limit access to effective care for sleep disorders for Australians.
6. National awareness and development of cost-effective healthcare models that improve sleep and comorbid conditions are needed.
7. The NPHS is the optimal vehicle for the linking to, and delivery of, key aspects of the 2019 *Parliamentary Inquiry into Sleep Health*.
8. We strongly recommend including *Improving Sleep Health* as an eighth focus area in the Strategy.

Background

The average life expectancy of Australians is growing by 0.2% per year. An Australian can now anticipate living to 83.5 years of which 28 of those years (approximately one third) will have been committed solely to the function of sleep. Until recently, this remarkable time investment has attracted little collective regard for its importance. For many Australians, the most relatable notion for the importance of sleep are the symptoms of fatigue and drowsiness experienced when it is not sufficiently acquired.

As the draft NPHS highlights (page 28) 'getting enough sleep' and 'having energy' are two healthcare priorities for Australians. Yet sleep loss within our community can be easily trivialised given that it may be transient and recoverable. However, even transient sleep loss and the ensuing fatigue affects our motivation, performance, productivity, cognition and decision making. At a population level, the significance of community sleep loss starts to emerge. Measurable consequences of these are most notably recorded in our national road toll, which has stubbornly plateaued, prompting calls for the introduction of fatigue specific countermeasures (2). Whilst community sleep loss may be discretionary and correctable, the shift toward free market

casualised workforces, gig economies and shift-work reliant industries (3) are increasingly creating a population for which adequate sleep opportunity is less controllable. The inevitable and enduring fatigue-related consequences have dimensionally significant implications for the health of these Australians.

Compounding the burden of community sleep loss, is the added impact of common sleep disorders. Conditions such as obstructive sleep apnoea, insomnia and disorders caused by circadian (body clock) misalignment, collectively present an enormous public health challenge, both in their prevalence and their impact on the health of Australians. As is the case for chronic sleep loss, enduring fatigue is central to the experience of those suffering from these common disorders. Importantly, sleep disorders are highly prevalent among many of the healthcare priorities identified in the NPHS draft document.

Building resilience through optimal sleep

Improving the health of Australians will be delivered in part by behaviour change strategies that rely on the individual effort-based decision-making framework underpinning intrinsic motivation. This framework is eroded by sleep loss and sleep disorders (4). Strategies that optimise sleep will be fundamental to improving healthy decision making in the broader context. Furthermore sleep is a critically important component for the regulation of emotional experiences (5). Sleep disturbance and associated daytime fatigue impair objectively quantifiable human resilience (6) for which emotional regulation and intrinsic motivation are key components. Building a more resilient Australian community is a key objective of the NPHS draft (page 63).

Sleep and mental health

Population surveys demonstrate that sleep complaints affect over 90% of individuals with major depressive symptoms (7). Historical perspectives have assumed co-existing insomnia to be secondary to an underlying mental illness (8). However evidence for a bidirectional relationship between sleep disturbances and mood disorders (9) and suicidality (10) has emerged over the last decade (9), with the contemporary position now that this bidirectional relationship is well established (11). Transforming the science into real world solutions has been slow, despite compelling evidence for effective therapies (12-15). Cognitive behavioural therapy for insomnia (CBT-I) is proven to be highly effective and endorsed as a first line approach (16). Furthermore, there is compelling evidence (meta-analysis of RCTs) that indicates treating insomnia with CBT-I has moderate to large positive effects on mood among patients with co-existent insomnia and depression (17). In Australia, awareness and understanding of CBT-I among healthcare professionals and the broader community is low and few facilities deliver this expertise. A NPHS would raise awareness and bolster resources for the effective scaleup and delivery of these services.

Sleep and alcohol

Excessive alcohol consumption has a raft of deleterious health consequences and is a priority target in the draft NPHS. Alcohol impairs sleep, especially in the second half of the night. Importantly, evidence points again to bidirectional interactions between sleep disturbance and excessive alcohol consumption (18). Targeting sleep disturbance may be an important strategy to enhance effort allocation and intrinsic motivation. Awareness among healthcare professionals and the broader community are needed in order to address this problem from a multidimensional approach.

Economic costs of inadequate sleep

A Sleep Health Foundation report (19) estimated for the 2016-17 financial year that 7.4 million Australian adults did not regularly get the sleep they need – defined as ‘inadequate sleep’. The total cost of inadequate sleep in Australia in this period was estimated to be \$66.3 billion, comprising \$26.2 billion in financial costs and \$40.1 billion in the loss of wellbeing. This equates to approximately \$8,968 per person affected in both financial and wellbeing costs. The components of financial costs (total \$26.2 billion in 2016-17) were estimated to be:

- health system costs of \$1.8 billion, or \$246 per person with inadequate sleep;
- productivity losses of \$17.9 billion, or \$2,418 per person with inadequate sleep;
- informal care costs of \$0.6 billion, or \$82 per person with inadequate sleep; and
- other financial costs, including deadweight losses, of \$5.9 billion, or \$802 per person with inadequate sleep.

What is needed

The NHPS is an opportunity to embed accepted knowledge into practice and achieve better healthcare outcomes for Australians, aligned with the priorities proposed in the draft document. The 2019 *Parliamentary Inquiry into Sleep Health* delivered a number of key recommendations:

Recommendation 1. The Committee recommends that the Australian Government prioritise sleep health as a national priority and recognise its importance to health and wellbeing alongside fitness and nutrition.

Recommendation 8: The Committee recommends that the Australian Government, in partnership with the states, territories and key stakeholder groups, work to develop and implement a national sleep health awareness campaign.

The NHPS is the most obvious vehicle for the implementation of the above recommendations. We urge the NPHS in working with key stakeholders and targeted communities to develop models of care that cost effectively scale proven solutions that improve sleep of vulnerable Australians. Ultimately our goal is to bolster resilience to combat the broader range of healthcare burdens to improve well-being and build an energetic and dynamic society.

We strongly recommend inclusion of *Improving Sleep Health* as an eighth focus area in the Strategy.

References

1. Adams RJ, Appleton SL, Taylor AW, Gill TK, Lang C, McEvoy RD, et al. Sleep health of Australian adults in 2016: results of the 2016 Sleep Health Foundation national survey. *Sleep health*. 2017;3(1):35-42.
2. Wolkow AP, Rajaratnam SMW, Anderson C, Howard ME, Mansfield D. Recommendations for current and future countermeasures against sleep disorders and sleep loss to improve road safety in Australia. *Internal medicine journal*. 2019;49(9):1181-4.

3. <https://www.abs.gov.au/ausstats/abs@.nsf/featurearticlesbyCatalogue/5461A9DAE97FF759CA2578C300153388?OpenDocument>.
4. Massar SAA, Lim J, Huettel SA. Sleep deprivation, effort allocation and performance. *Progress in brain research*. 2019;246:1-26.
5. Palmer CA, Alfano CA. Sleep and emotion regulation: An organizing, integrative review. *Sleep medicine reviews*. 2017;31:6-16.
6. Wang J, Zhang X, Simons SR, Sun J, Shao D, Cao F. Exploring the bi-directional relationship between sleep and resilience in adolescence. *Sleep medicine*. 2020;73:63-9.
7. Geoffroy PA, Hoertel N, Etain B, Bellivier F, Delorme R, Limosin F, et al. Insomnia and hypersomnia in major depressive episode: Prevalence, sociodemographic characteristics and psychiatric comorbidity in a population-based study. *Journal of affective disorders*. 2018;226:132-41.
8. Harvey AG. Insomnia: symptom or diagnosis? *Clinical psychology review*. 2001;21(7):1037-59.
9. Baglioni C, Battagliese G, Feige B, Spiegelhalder K, Nissen C, Voderholzer U, et al. Insomnia as a predictor of depression: a meta-analytic evaluation of longitudinal epidemiological studies. *Journal of affective disorders*. 2011;135(1-3):10-9.
10. Pigeon WR, Piquart M, Conner K. Meta-analysis of sleep disturbance and suicidal thoughts and behaviors. *The Journal of clinical psychiatry*. 2012;73(9):e1160-7.
11. Freeman D, Sheaves B, Waite F, Harvey AG, Harrison PJ. Sleep disturbance and psychiatric disorders. *The lancet Psychiatry*. 2020;7(7):628-37.
12. Manber R, Edinger JD, Gress JL, San Pedro-Salcedo MG, Kuo TF, Kalista T. Cognitive behavioral therapy for insomnia enhances depression outcome in patients with comorbid major depressive disorder and insomnia. *Sleep*. 2008;31(4):489-95.
13. Ashworth DK, Sletten TL, Junge M, Simpson K, Clarke D, Cunnington D, et al. A randomized controlled trial of cognitive behavioral therapy for insomnia: an effective treatment for comorbid insomnia and depression. *Journal of counseling psychology*. 2015;62(2):115-23.
14. Christensen H, Batterham PJ, Gosling JA, Ritterband LM, Griffiths KM, Thorndike FP, et al. Effectiveness of an online insomnia program (SHUTi) for prevention of depressive episodes (the GoodNight Study): a randomised controlled trial. *The lancet Psychiatry*. 2016;3(4):333-41.
15. Read J, Sharpe L, Burton AL, Arean PA, Raue PJ, McDonald S, et al. A randomized controlled trial of internet-delivered cognitive behaviour therapy to prevent the development of depressive disorders in older adults with multimorbidity. *Journal of affective disorders*. 2019.
16. Riemann D, Baglioni C, Bassetti C, Bjorvatn B, Dolenc Groselj L, Ellis JG, et al. European guideline for the diagnosis and treatment of insomnia. *Journal of sleep research*. 2017;26(6):675-700.
17. Gebara MA, Siripong N, DiNapoli EA, Maree RD, Germain A, Reynolds CF, et al. Effect of insomnia treatments on depression: A systematic review and meta-analysis. *Depression and anxiety*. 2018;35(8):717-31.
18. Thakkar MM, Sharma R, Sahota P. Alcohol disrupts sleep homeostasis. *Alcohol (Fayetteville, NY)*. 2015;49(4):299-310.
19. <https://www.sleephealthfoundation.org.au/news/special-reports/asleep-on-the-job-costs-of-inadequate-sleep-in-australia.html>.