

Better sleep health for essential workers

Pre Budget Submission
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Executive summary

The COVID-19 pandemic has underscored the importance and value of Australia's essential workers to the wellbeing of the nation and its economy. Many of these essential workers are employed in shift work. This submission outlines a comprehensive program designed to improve the sleep health of these essential shift workers with a targeted program focused on the six key industries employing the vast majority of shift workers in Australia:

- transport, postal and warehousing
- manufacturing
- accommodation and food services
- mining
- public administration and safety
- healthcare and social assistance.

This submission is a prioritized response to two key recommendations of the Parliamentary Inquiry into Sleep Health Awareness in Australia¹, and will result in significant benefits to the Australian economy through reduced healthcare costs and improved productivity and safety.

This proposal consists of two complementary work packages:

1. The development of guidelines for optimal shift structures for the key industry sectors employing shift workers. These guidelines will focus on work hours, rest breaks and other workplace practices, informed by stakeholder consultation, state-of-the-art knowledge from scientific research and international best practice.
2. A well-resourced, targeted education and behaviour-change campaign to promote sleep health among shift workers from these key industries and their families.

The recently published National Preventive Health Strategy² has demonstrated that 'getting enough sleep' and 'having energy' make up two of the eight community health goals for Australians. The Strategy recognizes the pivotal role of sleep health in improving physical and mental health outcomes for the community. Although an issue across the entire community, shift workers are a high priority group, given the high prevalence of sleep disorders and the significant occupational health and safety risks associated with poor sleep in this population.

Improving the timing, quality and quantity of sleep for essential workers will lead to a healthier, happier, more productive and safer workforce, with substantial economic benefits for the nation.

Problem

Around 15% of employed Australians report that they usually work shift work.³ This number will grow as a result of the expansion of service industries requiring shift work, the gig economy, and the increased flexibility in work arrangements accelerated by the COVID-19 pandemic. Notably, 36% of employed Australians report working flexible hours, 34% report working extra hours or overtime and 41% report regularly working from home.³

Investing in the health and wellbeing of our workforce has never been more important, particularly for our frontline workers. Shift workers have a 36% increased risk of motor vehicle accidents and are



at increased risk of chronic physical and mental health conditions including depression, cardiovascular disease, diabetes and some cancers.

One of the major contributors to the substantial health and safety risks associated with shift work is disrupted sleep. Sleep is a fundamental biological need that is essential for health. The scale of the burden associated with poor sleep in the community is significant, with an estimated four out of 10 Australian adults reporting insufficient sleep on a daily or several-days-a-week basis.⁴ While some of the problem can be explained by clinical sleep disorders, much appears to be due to work demands or lifestyle choices that restrict sleep to create more time for work, family, social and social media pursuits.

The consequences of impaired sleep are far-reaching. Sleep-restricted individuals have impaired alertness, cognitive performance and higher rates of irritability than when sufficiently rested.⁵ Over time, health and longevity suffer. Virtually every aspect of our physiology is impacted by inadequate sleep, including cardiovascular and metabolic functions. Poor sleep increases the risk of mental health problems, notably depression and anxiety with linkages to cognitive decline and dementia.

A recent analysis of the economic cost of common sleep disorders in Australia by Deloitte Access Economics (commissioned by the Sleep Health Foundation) reports that in 2019-20 the costs exceeded \$14.4 billion, and the reduction in wellbeing for people affected by sleep disorders was valued at \$36.6 billion - due to short and long-term disability, and premature death.⁶ The financial costs are predominantly due to lost work-related productivity and to workplace and road accidents.

Solution

The comprehensive approach to managing the sleep health burden in shift work is multifaceted. It includes public health measures, optimization of the workplace environment, review of rostering, individual worker behaviour changes and, in selected cases, pharmacotherapy. Despite a growing understanding of the magnitude of this burden and an emerging raft of effective strategies to mitigate against it, there remains insufficient awareness of the significance of these issues at public health, workplace community and healthcare worker levels.

The Parliamentary Inquiry into Sleep Health Awareness in Australia¹ made the following recommendations in relation to shift work:

- *Recommendation 2:* The Committee recommends Safe Work Australia and the Alertness CRC provide updated guidelines (based on current research and science) for industries using shift work, regarding optimal shift structures and other workplace practices that promote alertness, productivity and ensure worker safety.
- *Recommendation 3:* The Committee recommends the Australian Government work with the states and territories to:
 - Develop a nationally consistent approach to working hours and rest breaks for shift workers; and
 - Consider whether there is a need for sleep health screenings for shift workers; and
 - That this approach be based on guidelines recommended by Safe Work Australia and the Alertness CRC.



The Sleep Health Foundation has assembled the Australian Sleep and Alertness Consortium (ASAC), the transition (legacy) structure for the Alertness Cooperative Research Centre, comprised of stakeholders involved in the development and deployment of innovative solutions to improve workplace productivity and safety, including optimal shift structures, workplace practices and sleep health screening and management.

In this submission, the Sleep Health Foundation and the Australasian Sleep Association propose a program that will ensure any work on the Parliamentary Inquiry recommendations is supported by the current research and science. Importantly, to support this work, we will consult with Safe Work Australia and relevant industry bodies to ensure success. Our team has a strong history of engagement with key stakeholders to develop evidence-based solutions for shift workers.

Program

The proposed three-year program consists of two complementary work packages:

1. The development of guidelines for optimal shift structures, tailored for the industries that account for the largest proportion (74%) of shift workers: transport, postal and warehousing; manufacturing; accommodation and food services; mining; public administration and safety; and healthcare and social assistance.

The guidelines will include principles for scheduling work hours and rest breaks, and a risk evaluation matrix informed by stakeholder consultation, state-of-the-art knowledge from scientific research and international best practice. We will disseminate the guidelines via the [WorkAlert website](#), developed by the Alertness CRC. These will be provided to Safe Work Australia, relevant industry bodies and the Department of Health as evidence of the current research and science in this space.

2. A well-resourced, targeted education and behaviour-change campaign to promote sleep health among shift workers and their families from the following industries: transport, postal and warehousing; manufacturing; accommodation and food services; mining; public administration and safety; and healthcare and social assistance.

Work Package 1: Development of Guidelines

This work package will use the NHMRC Standards for Guidelines (2016) methodology and comprise the following components.

- (i) Establish the Guideline Development Group
An independent Chair will be appointed, followed by the members of the Guideline Development Group. We will invite representatives of the Sleep Health Foundation (Australian Sleep and Alertness Consortium), Australasian Sleep Association, Safe Work Australia, Faculty of Occupational and Environmental Medicine of the Royal Australasian College of Physicians, and at least two international experts in shift work rostering/management. Processes for reaching consensus (Delphi method) and dealing with conflicts of interest will be documented.
- (ii) Undertake public consultation including relevant industry and regulatory bodies, professional associations and unions, occupational health and safety workers, clinicians, shift workers and their families.



- (iii) Develop systematic search/review strategy for gathering evidence, existing tools and best practice
- (iv) Collect body of evidence and prepare recommendations for guidelines
- (v) Development of draft guidelines
- (vi) Peer review of draft guidelines
- (vii) Finalisation of guidelines
- (viii) Dissemination of guidelines through WorkAlert website.

Budget: \$850,000 over three years

Work Package 2: Education and behaviour change for shift workers and their families

There has never been a coordinated, national education and behaviour-change campaign in Australia regarding improving sleep and coping with the demands of shiftwork. A campaign about the benefits of sleep and managing shift work with increased knowledge of nutritional intake, timing of light and exercise has never been more important. The need is clear, we have the necessary experts and research backing, and the benefits will be significant. Now is the time to execute a public health education and behaviour-change campaign for shift workers and their families.

Specific components of the program will include:

- (i) Behaviour-change research to establish current opinions and behaviour drivers for specific industries, employers, shift workers and their families, identify the key drivers for sleep health improvement, and refine communication channels and messaging.
- (ii) Develop an interactive app to support shift workers in making healthy decisions tailored to their circumstances in relation to timing and types of food intake, light exposure, exercise timing, and better sleep (building upon the foundational work of the Alertness CRC).
- (iii) A national media and social media educational campaign for shift workers focused on the value of making lifestyle choices that promote wellbeing and alertness through prioritising sleep.
- (iv) A community speaker program for workplaces, including training materials and supporting digital resources.
- (v) Digital education resources freely available for download from the WorkAlert website, tailored to the largest industry sectors employing shift workers.
- (vi) Translation of electronic materials into the most common community languages spoken by Australians and promotion of their availability both online and through community newspapers.

An important aspect of the proposal is the inclusion of rigorous evaluation measures to ensure the education and behaviour-change program is refined to achieve greatest impact. We will include comprehensive before and after evaluations of the extent to which community and workplace understanding about the importance of healthy sleep and how to obtain it have changed.

Budget: \$1.85 million over three years

Return on investment

For a total investment of \$2.7 million over three years, the Australian Government can conservatively expect to yield savings and economic benefits of around \$144 million each year.



The goal of this program is to improve the current cost of sleep disorders by 5% by specifically targeting shift workers – 15% of the Australian workforce who are at the highest risk of sleep disorders, workplace accidents, absenteeism, mental health problems and other productivity losses associated with shift work.

Deloitte Access Economics (in a report commissioned by the Sleep Health Foundation) estimated that in the 2019-20 financial year, the total economic burden of poor sleep and sleep disorders across the whole Australian population was \$14.4 billion.⁶ This total included:

- \$0.9 billion in health care costs
- \$2.2 billion in absenteeism losses, or absences from work
- \$7.5 billion in presenteeism losses, or reduced productivity while at work
- \$1.0 billion in reduced employment
- \$0.2 billion in premature mortality costs, representing forgone future income where deaths are attributable to sleep disorders
- \$0.3 billion in informal care costs
- \$0.6 billion in other costs, primarily representing additional costs of accidents (e.g. policing, courts, property damage, etc) including greater reliance on aids and modifications due to long-term or permanent disability
- \$1.5 billion in deadweight losses, which are costs that occur due to the need to levy taxes to pay for government-funded services (e.g. health costs) and achieve a budget neutral position.

The program we propose actions one of the groups of people most at risk of sleep disorders – shift workers. By reducing these costs by even 1%, Australia might save \$144 million in the course of a single year. The evaluation of this program will include a mechanism to estimate economic savings in relation to absenteeism, workplace accidents and productivity.

About us

The Sleep Health Foundation is Australia's leading advocate for healthy sleep. It aims to improve people's lives by promoting sleep health, raising awareness of sleep disorders and building partnerships with organisations with complementary objectives. It includes the Australian Sleep and Alertness Consortium (ASAC), the transition (legacy) structure for the Alertness Cooperative Research Centre, comprised of stakeholders involved in the development and deployment of innovative solutions to improve workplace productivity and safety.

The Australasian Sleep Association is the peak scientific body in Australia and New Zealand representing clinicians, scientists and researchers working in sleep health and sleep medicine. It is experienced in developing clinical guidelines, professional education and other services aimed at improving the quality of sleep health.

REFERENCES

¹ Commonwealth of Australia (2019) *Bedtime Reading. Inquiry into Sleep Health Awareness in Australia*. Available at: https://www.aph.gov.au/Parliamentary_Business/Committees/House/Health_Aged_Care_and_Sport/SleepHealthAwareness/Report



² Commonwealth of Australia (2021) *National Preventive Health Strategy 2021-2030*. Available at: <https://www.health.gov.au/resources/publications/national-preventive-health-strategy-2021-2030>

³ Australian Bureau of Statistics (2021) *Working arrangements*. Available at: <https://www.abs.gov.au/statistics/labour/earnings-and-work-hours/working-arrangements/latest-release>

⁴ Adams RJ, Appleton SL, Taylor AW et al. Sleep health of Australian adults in 2016: results of the 2016 Sleep Health Foundation national survey. *Sleep Health* 2017;3:35-42.

⁵ Joint Commission (2011) Healthcare worker fatigue and patient safety. The Joint Commission Sentinel Event Alert 48.

⁶ Deloitte Access Economics (2021) *Rise and try to shine: the social and economic costs of sleep disorders in Australia*. Available at: <https://www.sleephealthfoundation.org.au/news/special-reports/rise-and-try-to-shine-the-social-and-economic-costs-of-sleep-disorders.html>