

Addressing Inadequate Sleep in the Australian Community

A Vital National Health, Societal and Economic Issue



Sleep Health Foundation and
Australasian Sleep Association
Pre Budget Submission 2019-20



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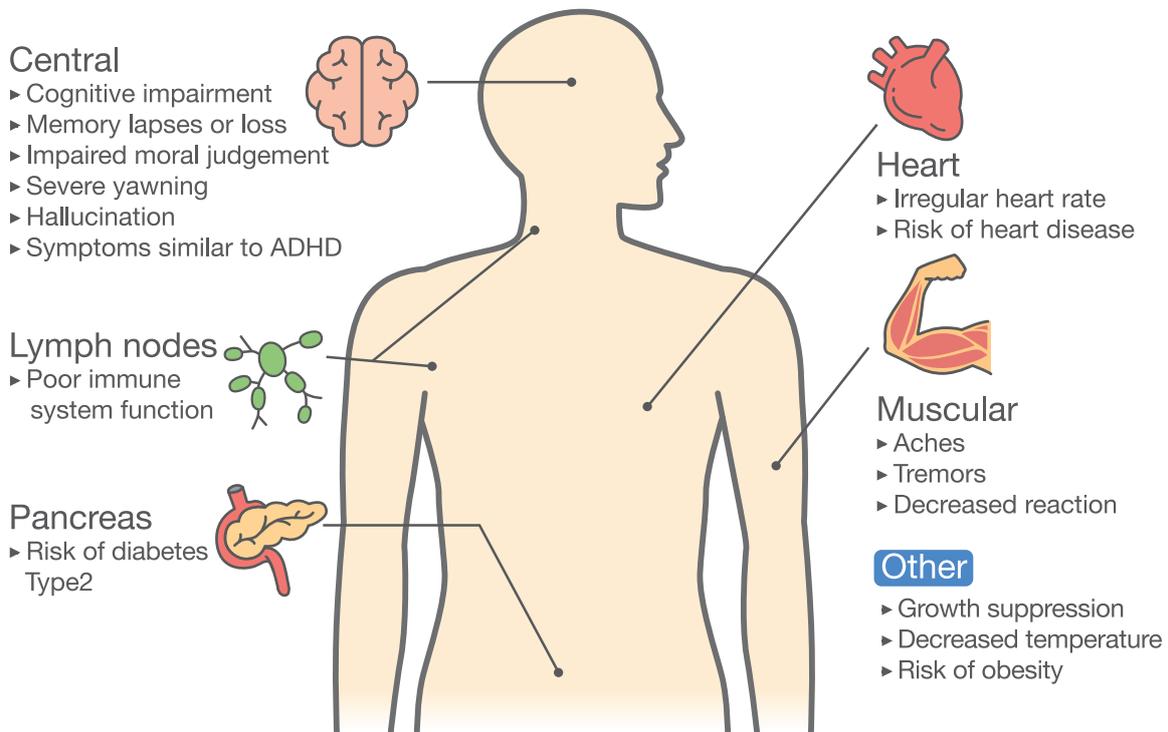
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Executive Summary

This pre-budget submission requests funding to address a growing national problem with important health, well-being and economic consequences: inadequate sleep. Sleep is a fundamental biological need which is essential for recuperation, memory consolidation, performance, learning and emotional well-being. Recent surveys demonstrate that four out of 10 Australian adults report insufficient sleep on a daily or several-days-a-week basis. Inadequate sleep can result from poor sleep habits

through choice or pressure from work, family or other demands, or from clinical sleep disorders. Overall these clinical sleep disorders account for approximately half of the inadequate sleep problem, with obstructive sleep apnoea and insomnia major contributors. Inadequate sleep, in all its forms, has detrimental impacts on physical and mental health, daytime alertness, mood, work performance and accident risk. In children poor sleep adversely affects behaviour and learning.

Effects of Sleep Deprivation



This submission, from the Sleep Health Foundation (Australia's leading advocate for healthy sleep) and the Australasian Sleep Association (the peak national body of Australian sleep clinicians and scientists), occurs in the context of a current national *Parliamentary Inquiry into Sleep Health Awareness in Australia* (www.apf.gov.au/SleepHealth) called because of increasing concern about the problem. The Inquiry has received 129 submissions reflecting widespread interest in sleep health.

This submission requests funding to address the issue through two complementary programs:

1. **A national community education sleep health campaign** to highlight the issues, increase awareness of them and provide advice to the community regarding healthy sleep practices and common sleep problems.
2. **National education programs** for health professionals to better equip the general practitioner and allied health professional workforce to deal with the specific sleep disorders and respond to interest and inquiries generated by the campaign in an efficacious and helpful way.

A start-up and 3-year implementation budget totaling \$29.197 million is requested, as summarised in the following table:

| | 2019-20 | 2020-21 | 2021-22 | 2022-23 | TOTAL |
|--|------------------------|------------------------|------------------------|------------------------|-------------------------|
| National Community Education Campaign | \$2.720 million | \$5.227 million | \$5.154 million | \$5.161 million | \$18.262 million |
| National Education Programs for Health Professionals | \$2.370 million | \$2.825 million | \$2.855 million | \$2.885 million | \$10.935 million |
| TOTAL | \$5.090 million | \$8.052 million | \$8.009 million | \$8.046 million | \$29.197 million |

Substantial health, productivity and accident risk mitigation gains are likely to accrue from such measures. Given that the estimated annual (2016-17) financial cost to the national economy of inadequate sleep is \$26.2 billion and that a >5% change in behavior is readily achievable through such campaigns, this proposal is likely to be **highly cost-effective**. Detail regarding it is provided in the following pages.

Introduction

The Sleep Health Foundation and the Australasian Sleep Association welcome the opportunity to provide a submission to the Federal Treasurer to inform the 2019-20 Federal Budget.

This submission addresses a large and expensive but under-appreciated Australian public health problem: **inadequate sleep**.

Sleep is a fundamental biological need which is essential for recuperation, memory consolidation, performance, learning and emotional well-being. Recent surveys demonstrate that four out of 10 Australian adults report insufficient sleep on a daily or several-days-a-week basis. Poor and inadequate sleep can result from poor sleep habits through choice or pressure from work, family or other demands, or from clinical sleep disorders. Overall these clinical sleep disorders account for approximately half of the inadequate sleep problem, with obstructive sleep apnoea and insomnia major contributors.

Inadequate sleep, in all its forms, has detrimental impacts on physical and mental health, daytime alertness, mood, work performance and accident risk. In children poor sleep adversely affects behaviour and learning. As with adults,

sleep disorders in children are under-recognised, often being misdiagnosed as other conditions.

This submission is informed by the work of our members, boards of directors and experiences of our patients and practitioners, plus careful epidemiological and economic research and analysis. It addresses the key priorities needed to address the vastly underestimated health issue of inadequate sleep. We make this submission in the context of the current *Parliamentary Inquiry into Sleep Health Awareness in Australia*

(<https://www.aph.gov.au/SleepHealth>) with which our organisations have had key roles in calling for and now participating in. The Inquiry has received 129 submissions, attesting to the widespread importance given to the issue of sleep health in Australia.

Given the high and growing prevalence of inadequate sleep in all its forms, the substantial communal illness and injury burden and high associated financial and societal costs, there is an urgent need for focused attention and government-funded initiatives to address the problem. As demonstrated below, while the budgetary outlay is relatively modest, the economic savings potentially run into billions of dollars annually.

Our Budgetary Proposal

In this submission, the Sleep Health Foundation¹ – Australia’s leading advocate for healthy sleep – and the Australasian Sleep Association – the peak professional body of Australian sleep clinicians and scientists – propose budgetary measures that will begin to address this problem. Two specific complementary requests (*with details set out below*) are being made for a total cost for start-up expenses followed by a 3-year program of \$29.197 million (Table 1). These complementary requests are:

Request 1: A well-funded, concerted **national community education sleep health campaign** is needed to highlight the issues, increase awareness of them and provide advice to the community regarding healthy sleep practices and common sleep problems. Total cost over 3+ years = \$18.262 million (Tables 1 and 2).

Request 2: The campaign should be complemented by **national education programs for health professionals** to better equip the general practitioner and allied health professional workforce to deal with the specific sleep disorders and respond to interest and enquiries generated by the campaign in an efficacious and helpful way. Total cost over 3+ years = \$10.935 million (Tables 1 and 3).

For Australia’s businesses, families, communities, the health sector and its hard-working health practitioners, better awareness and funding of sleep health is needed to properly realise this nation’s full potential.

These sound and modest budget policy proposals will go a long way to help Australia’s industries and communities to become healthier, happier, safer and more productive.

Table 1. Sleep Health Foundation and Australasian Sleep Association Budget Proposal - overview

| | 2019-20 (\$) | 2020-21 (\$) | 2021-22 (\$) | 2022-23 (\$) | TOTAL (\$) |
|--|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| National Community Education Campaign | \$2.720 million | \$5.227 million | \$5.154 million | \$5.161 million | \$18.262 million |
| National Education Programs for Health Professionals | \$2.370 million | \$2.825 million | \$2.855 million | \$2.885 million | \$10.935 million |
| TOTAL | \$5.090 million | \$8.052 million | \$8.009 million | \$8.046 million | \$29.197 million |

REQUEST 1: National Sleep Health Community Education Campaign

a) Poor Sleep Health is a Large and Growing Problem

Inadequate sleep is a large, expensive and growing Australian public health problem that, to date, has been under-appreciated by the community and its leaders. Sleep is a *fundamental biological need* which is essential for recuperation, memory consolidation, performance, learning, health and emotional well-being.² *Inadequate sleep is*

common: recent surveys demonstrate that four out of 10 Australian adults report insufficient sleep on a daily or several-days-a-week basis.³

The problem is growing, and younger adults are disproportionately affected. While some of the difficulty can be explained by *clinical sleep disorders* and other health issues, much appears to be due to *work pressures or lifestyle choices* that restrict sleep to create more time for work, family, social and leisure pursuits, including social media.

The *consequences are far-reaching and expensive*: sleep-restricted individuals have impaired alertness, think less quickly and accurately, and are less vigilant, more irritable and prone to depressed mood than when sufficiently rested.⁴ Over time, health and longevity suffer: virtually every aspect of our physiology is impacted by inadequate sleep, including psychological, cardiovascular and immune functions.⁵⁻⁷ Apart from the health and social impacts of sleep loss, productivity, road safety, absenteeism and errors at work are impacted.⁸⁻¹¹

Children are especially vulnerable to sleep loss, with most adolescents not meeting their sleep need on school nights.¹² Furthermore, children who have, on average, three hours of screen time per day are more likely to have higher rates of poor sleep and poorer educational outcomes than children who spend less time in front of screens.¹³ Poor sleep at any point across the lifespan, including adolescence, increases the risk of mental health problems and suicide.^{14,15} For example, poor sleep in young, non-depressed Australian women was found to increase the risk of subsequent depression more than *four-fold* within a decade.¹⁶

b) The Economic Costs are High

A recent analysis of the economic cost of inadequate sleep in Australia (commissioned by the Sleep Health Foundation and completed by Deloitte Access Economics) reports that in 2016-17 financial year poor sleep caused \$26.2 billion in financial costs and a further \$40.1 billion in non-financial (loss of well-being) costs.¹⁷ The financial costs are predominantly due to lost productivity and to accidents.

c) National Action is Required

A national community education campaign is required to address this issue. Its aim would be to educate Australians about the importance of sleep health, specifically the purpose of sleep, usual sleep requirements across the lifespan, the consequences of inadequate sleep (because of insufficient duration, inappropriate timing relative to time of day, or inadequate quality due to an unrecognised sleep disorder or other problem), self-help measures to improve sleep and sources of professional help where problems persist.

Primary school students and adolescents would be particular focuses given their vulnerability to sleep loss and the adverse effects of this on behaviour, learning, emotional well-being and intellectual development.

The intention is that the campaign be multifaceted and to extend beyond awareness raising alone to ensure that long term changes in behaviour are achieved and consolidated. To assure good outreach into the community and priority audiences, specific components of such a campaign would include:

- A national media and social media educational campaign focused on the value of making lifestyle choices that promote wellbeing and alertness through prioritising sleep.
- A Community Speaker Program for workplaces, community centres, clinics, clubs, older citizen groups and other groups.
- A Secondary School Speaker Program for students and their parents.
- A Primary School Teacher-Delivered Resource Package.
- An enhanced educational website providing materials that complement all initiatives. The website will provide educational material and two-way interactivity, to allow information exchange.
- Translation of information into the most widespread community languages spoken by Australians
- Nation-wide promotion of all of the above resources across diverse media and related outlets

An important aspect of such a campaign is the inclusion of careful evaluation measures to ensure its approaches are refined to achieve greatest effect. This would include media metrics and pre- and post- evaluations of the extent to which community understanding about the importance of healthy sleep and how to obtain it have changed. Such evaluation would include assessments of awareness and understanding and behavioural/lifestyle changes (e.g. adoption of basic sleep hygiene principles; seeking professional help for sleep difficulties, supporting partner/family member in achieving better sleep health).

Our overall aim is to make sleep nationally recognised as the third pillar of a healthy lifestyle, along with exercise and nutrition (diet).



Sleep is the critical third pillar in achieving maximum wellness.

d) Funding Rationale

We request funding for a National Sleep Health Promotion Campaign totaling to \$18.3 million over three years following a start-up period after approval of funding (Table

2). The campaign will begin with an allocation of \$400,000 to conduct scoping of requirements and develop a highly detailed plan. Eight million dollars is requested for the start-up period and first year of execution (2019-2021), with just over \$5 million allocated in each of the remaining two years.

Elements of the budget would include provision of funds for campaign management and operational costs, the development of audio-visual and digital media (including on-line tools and resources), and training and deployment of speakers across the nation. Outreach to rural and regional communities will be important. Development of accessible materials that have enduring value is a priority. All media resources and campaign materials will be developed by marketing/advertising professionals with specialist experience in behaviour change in close collaboration with sleep experts and consumer advocates, such as those associated with the Sleep Health Foundation, using the most current technologies and media platforms.

Table 2. Estimated Cost of 3-Year (+ Start-Up) National Sleep Health Promotion Campaign

| Campaign Component | Component Detail | 2019-20 (\$) | 2020-21 (\$) | 2021-22 (\$) | 2022-23 (\$) | TOTAL (\$) |
|--|---|---|------------------------|---------------------|---------------------|---------------------|
| Scoping of campaign by behavioural consultants | High-level strategy draft Project plan | \$400,000 incl. travel and contingency | | | | \$400,000 |
| A national media and social media educational campaign focused on the value of making lifestyle choices that promote wellbeing and alertness through prioritising sleep. | Personnel recruitment | \$10,000 | – | – | | \$10,000 |
| | Project Personnel (with leave, super): | | | | | |
| | – Manager | \$170,000 | \$174,000 | \$178,000 | \$182,000 | \$704,000 |
| | – Officer | \$120,000 | \$123,000 | \$126,000 | \$129,000 | \$498,000 |
| | Office expenses | \$80,000 | \$80,000 | \$80,000 | \$80,000 | \$320,000 |
| | Evaluation | | \$200,000 | \$200,000 | \$200,000 | \$600,000 |
| | Pre-launch marketing | \$750,000 | | | | \$750,000 |
| | Launch event | – | \$80,000 | | | \$80,000 |
| Development, promotion and administration of Speaker program | Contractors | \$500,000 | | | | \$500,000 |
| A Community Speaker Program for workplaces, Travel (speakers locally community centres, clinics, clubs, older citizen groups and other groups. | Speakers fees | | 5k pp x 40 = \$200,000 | \$200,000 | \$200,000 | \$600,000 |
| | \$40,000 (sourced where possible) | \$40,000 | \$40,000 | \$120,000 | | |
| A Secondary School Speaker Program for students and their parents | Speakers fees | | 5k pp x 40 = \$200,000 | \$200,000 | \$200,000 | \$600,000 |
| | Travel | | \$40,000 | \$40,000 | \$40,000 | \$120,000 |
| A Primary School Teacher-Delivered Resource Package. | Contractors for development (includes pilot and evaluation) | \$400,000 | – | – | | \$400,000 |
| An enhanced website providing materials that complement all initiatives | Website Contractor | \$30,000 set-up | \$10,000 update | \$10,000 update | \$10,000 update | \$60,000 |
| | Resource development, interactive facility | \$260,000 | \$60,000 | \$60,000 | \$60,000 | \$500,000 |
| Nation-wide promotion of all of the above resources across diverse media and related outlets | Marketing campaign to support awareness and adoption | | \$4000,000 | \$4000,000 | \$4000,000 | \$12,000,000 |
| TOTAL | | \$2,720,000 | \$5,227,000 | \$5,154,000 | \$5,161,000 | \$18,262,000 |

e) Campaign Development and Execution

We have modelled our approach on that used in large Australian Government campaigns with an initial *campaign development phase* incorporating the following elements:

- Formative research – to understand and articulate current behaviour and to identify the most effective ways to motivate and achieve behavioural change with respect to sleep
- Strategy development – to map behavioural drivers, develop behavioural levers, define and segment target audiences, and target appropriate media
- Creative development – to develop, test and iterate content

Followed by an *execution phase*, which will include the following elements:

- Audience targeting
- Campaign monitoring
- Adaptation and optimization
- Measurement of effectiveness and cost-effectiveness
- Reiteration on the basis of these evaluations

We envisage these phases being undertaken by national campaign development and creative agencies with oversight and expert input provided by the Sleep Health Foundation and the Australasian Sleep Association and the sleep health

experts at their disposal, in collaboration with the relevant government body. The estimated costs are based on costs of similar campaigns undertaken in Australia.¹⁸

f) Cost-Effectiveness: Anticipated Outcomes

Mass media campaigns are widely and successfully used to produce positive changes or prevent negative changes in health-risk related behaviours across large populations.¹⁹ Australia has a strong positive record in this regard, with world leading antismoking, road safety, heart disease, diabetes and depression identification and prevention campaigns to its credit. Health behavioural change campaigns, such as those targeting drink-driving and tobacco smoking, typically produce 5-15% positive changes in behaviour within one to two years of their instigation.^{20,21,22} Australia is primed for a sleep health awareness campaign, given widespread community concern about the impacts of contemporary life styles on sleep. A 5% change in behaviour appears readily achievable within a similar time frame. Such a change would be highly cost effective given that the annualized cost of the proposed initial 3-year campaign would be \$6.1 million (\$18.3 million over 3 years) and the financial cost of inadequate sleep to the Australian economy is \$26.2 billion per annum. Indeed, given these high financial costs, a far lower overall change in behaviour, led by changes in particular target groups, would be highly cost-effective.

REQUEST 2: National Education and Training Programs for Health Professionals

The second request is complementary to the first. The general practitioner (GP) and allied health professional workforce need to be upskilled and better resourced to manage specific sleep disorders in the community setting. Additionally, they will need to respond to the increased interest and enquiries generated by the national community education campaign.

(a) Inadequate sleep and sleep disorders are common and costly

Overall, 5.8% of the Australian population has excessive daytime sleepiness attributable to a sleep disorder and this costs the community \$13.6 billion annually.¹⁷ Obstructive sleep apnoea (OSA) and insomnia affect 10% and 15% of the adult population respectively and are the commonest sleep disorders presenting to GPs.²³

(b) There is a need for training and resources for health professionals

The importance of recognising and managing sleep disorders has increased exponentially over the past three decades. Australia has been at the forefront of sleep medicine internationally including the invention of continuous positive airways pressure (CPAP) to treat OSA in 1980. Training for sleep physicians has developed in parallel with a highly skilled but relatively small workforce (480 registered Sleep Physicians, with 213 members of the ASA) trained via the Royal Australasian College of Physicians. However, sleep health training for primary health care (GPs and nurses) and allied and community health professionals (dentists, psychologists, pharmacists) has lagged behind with minimal time devoted in training programs (e.g., current medical school training devotes less than 2 hours to sleep medicine in the entire curriculum).

Best practice management of chronic sleep disorders requires a multidisciplinary team approach encompassing a range of health professionals. For example, cognitive behavioural therapy delivered by a psychologist trained in sleep medicine is the most effective treatment for chronic insomnia with superior long term outcomes compared to sedative medications. It is not appropriate or necessary that

all patients with sleep issues or disorders be managed by sleep physicians. The current reliance on specialist services has meant that there is a significant unmet burden of disease in the community.

The management of uncomplicated sleep issues and disorders must more closely involve primary care and allied and community health workers. However, in order to do this there is an urgent need for improved education and training, as well as clear clinical guidelines for health professionals working in primary care and the community. This will ensure efficient and effective management of this major health problem in Australia.

The development and delivery of accessible educational tools for GPs, psychologists, dentists, pharmacists and nurses will both reduce costs and improve healthcare delivery to a greater number of patients.

(c) A coordinated national education program is required

Training of General Practitioners

General Practitioners (GPs) are well-positioned to identify and manage patients with the commonest sleep disorders, including OSA and insomnia. However, the current level of knowledge of sleep disorders, practices and attitudes in primary care is not known. This includes the prevalence of OSA in primary care, impact of sleep disorders on community health, referral patterns for sleep disorders management in primary care, extent of inappropriate prescribing of sedative-hypnotics for insomnia (BEACH data indicates that 90% of patients presenting to a GP with insomnia symptoms are prescribed sedative hypnotics²³), as well as an assessment of the barriers/enablers to increased involvement of GPs in sleep disorders management in primary care.

The ASA and SHF are collaborating partners in the National Sleep Health Services Research Centre of Excellence (CRE), awarded to the Adelaide Institute for Sleep Health in November 2017. Preliminary work is underway to determine how primary health care practices can better manage sleep problems in Australia. The proposal in this pre-budget submission will leverage the information obtained from this research to guide development of educational courses and online tools that can be upscaled at a national level.

A two-step process is required to upskill GPs in the assessment and management of sleep disorders:

1. Assessment of current knowledge levels.

A formal assessment of current status needs to be undertaken. This will be done in collaboration with the National Sleep Health Services Research CRE and determine the level of training required to enable GPs to achieve the appropriate level of competency in sleep medicine and to inform the content of the course. This can be achieved utilising data currently available in the NPS Medicine Insight program, with surveys and focus groups of GPs and other primary care health professionals and of patients' experiences, attitudes and service preferences.

2. GP education and training.

There is a growing emphasis on the involvement of GP's in the management of sleep disorders highlighted by the new Medicare item numbers for sleep studies released in November 2018. GPs need to take a more active role in screening for OSA and following up patients with their results to advise on management. The Australasian Sleep Association (ASA) has worked closely with The Royal Australian College of General Practitioners (RACGP) to produce introductory online sleep education modules on OSA, insomnia and sleep disorders in children to facilitate recognition of these conditions. However more advanced learning modules are urgently needed to equip GP's with the skills to assess and manage these conditions independently. Such a program would be developed collaboratively with input from the ASA, RACGP and the National Sleep Health Services Research CRE. The program would then be rolled out nationally. The ASA, RACGP and National Sleep Health Services Research CRC would work together to develop, accredit and disseminate these courses.

GPs who have completed the course would be accredited to partner with a central sleep service in a hub-and-spoke model of care. The model of care would contain pre-defined assessment and management algorithms with electronic decision-making support based on clinical guidelines.²⁴ GPs would be supported in the management of uncomplicated sleep-related breathing disorders and insomnia, with facilitated and supervised access to

physician and sleep laboratory support. This GP-led model of care has been shown to be as effective as the traditional physician-led model of care for the diagnosis and management of OSA.²⁴ The involvement of a practice/community nurse would be an essential part of the program. In those practices where nurses are involved, adequate training programs and remuneration for nurses to participate in patient management would be required.

Specific tasks include, but are not limited to:

- Development of interactive online tools, potentially built into existing online GP management platforms, encompassing the early diagnosis and management of common chronic sleep disorders (OSA, insomnia, paediatric sleep disorders), as well as clinical pathways for referral to appropriate multidisciplinary team members. In parallel, assessment tools will be developed to ensure quality and assessment and certification will be integrated into all GP courses.
- Development of a series of webinars for primary health care providers. The ASA has a track record in webinar development, both independently and collaboratively e.g. with the Royal Australasian College of Physicians (RACP) and Australian Dental Association (ADA).
- Integration of information and clinical pathway sheets for GPs into GP desktop tools to trigger reminders for optimal patient management. These information sheets have already been developed by the ASA but are not yet on GP desktops.

Training of Psychologists

Psychologists receive little education during their postgraduate psychology training in assessing, diagnosing and treating sleep disturbances. This is a significant oversight, particularly in light of a substantive recent body of literature highlighting the bidirectional relationship between poor sleep/sleep disorders and mental health. The Australian Psychological Society (APS) and the ASA have already collaborated to develop a continuing four module Certificate in Sleep Psychology. Based on recognition of the importance of sleep for the field of Psychology, this Practice Certificate is presently being reviewed by members of the APS and ASA for its ongoing

delivery. This program is designed to provide an overview to psychologists on how to assess and manage sleep disorders but is inadequate to comprehensively manage behavioural sleep disorders such as insomnia and disorders of circadian misalignment. Further, there is untapped value to extended education for psychologists on the inclusion of sleep principles for management of acute and chronic mental health concerns which must be extended via additional ongoing education. While we have taken steps towards this (including an upcoming workshop for the APS Clinical College in May 2019), this is incremental progress and requires significant ongoing engagement in the form of more formalised training and education for the field of Psychology.

While training in sleep health and sleep disorders is almost non-existent in current University-based undergraduate and postgraduate psychology programs, it would be possible to extend and expand the APS/ASA program in order to allow appropriate therapy, for example cognitive behavioural therapy for insomnia (CBT-I), assistance with continuous positive airway pressure (CPAP) adherence, management of circadian rhythm disturbances and sleep hygiene improvement to be delivered by appropriately trained psychologists. Such a program would be delivered online in a modular format. The program could also be delivered at national Australian Psychological Society (APS) conferences and at education sessions around the country, facilitated by the relationship between the APS/ASA. Importantly, it will also contain online paediatric sleep modules with the APS and selected face-to-face modules. Assessment and certification would be built into all of these courses.

Training of Dentists

The treatment of snoring and OSA has resulted in a relatively new field of Dental Sleep Medicine. This is a medical field where a dental appliance is used to provide a medical health related outcome and is one of the few areas where a dental appliance is provided, not as a dental device, but as a technique for the management of a medical condition. Despite many Dentists providing oral appliances for OSA, few have undergone adequate training. Ideally such training would be provided in the primary dental degree however such implementation is

unlikely to be achieved across all Australian dental schools in the short term.

In order to cater for the immediate need for such training there currently exist niche industry and private courses and one postgraduate University Course in Australia. The ASA seeks to work with the Australasian Dental Association (ADA) to supplement these courses with an online modular based course offered by both organisations. Further, the ASA is developing a formal protocol of certification for dentists involved in the clinical field of Dental Sleep Medicine which will allow patients, sleep physicians and other health professionals working in the field of sleep medicine to be able to identify dentists who possess adequate competencies in dental sleep medicine. This is essential given the integral role of appropriately trained dentists in the multidisciplinary team approach required to successfully treat patients with sleep disorders.

Training of Pharmacists

Community pharmacists are highly accessible health care professionals. While experts in the delivery of pharmacotherapies, they have little training in sleep health or sleep disorders. Despite this lack of knowledge, many are working in specialised sleep pharmacies which provide CPAP and other appliances for treatment of OSA. There is a critical need to upskill pharmacists and their staff in sleep health and sleep disorders. A course called *Sleep Apnoea Services for Pharmacists* has recently been co-designed by the ASA and Pharmaceutical Society of Australia. This is a series of 3 online modules, but further training is required for face-to-face sessions in CPAP delivery. In addition, pharmacists are ideally placed to identify patients with difficult to control hypertension or mental health issues which may be related to inadequate sleep or sleep disorders. However, they require further knowledge and training in order to provide these important services.

The ASA would work with both the Pharmaceutical Society of Australia (PSA) and the Pharmacy Guild of Australia to develop courses with an online component and a face-to-face component. The two main areas of content would be (i) the important aspects of sleep disordered breathing and CPAP delivery; and (ii) insomnia

and poor sleep health. Assessment and certification would be built into all courses.

Training of Nurses

Limited education is provided to nurses during their education and training, despite nurses being on the 'front-line' in dealing with poor sleep in the hospital-based and community-based settings. The importance of good quality sleep to good health and recovery from an acute illness is often not appreciated by nurses in hospitals, despite it having been shown that attention to sleep and its disorders improves anaesthetic and surgical outcomes, shortens hospital length of stay and improves rehabilitation outcomes.

Nurses have a diverse scope of practice and are well positioned to address emerging healthcare challenges such as the sleep health of the Australian population. As the largest group of registered health professionals in Australia, nurses are at the forefront to increase sleep health awareness with variety of populations, 'cradle to grave', across a diverse geographic range with the appropriate training and support. They have the capacity to improve access to sleep health management across the healthcare spectrum. Nurses play an incredibly important role in monitoring and maintaining health in acute care, the general community and in rural and remote settings.

Specialist Sleep Nurse models of care have been documented in specialist sleep centres and practice nurses in primary care in the management of sleep disorders.²⁵ The increased awareness of the importance of good sleep will create demand for nurses to not only manage sleep disorders, but to improve sleep behaviours, promote sleep health and awareness. Education programs for nurses together with strategic planning and funding for advanced practice and nurse practitioner roles to ensure nurses are equipped to meet the demand is crucial. The work nurses do in sleep and sleep health needs to be valued, celebrated, developed and supported.

Targeted nurse education will enable nurses to deliver behavioural intervention therapies such as CBT and treat and manage uncomplicated sleep disordered breathing with CPAP. Research trials have been performed and these demonstrate that with training, nurses can achieve equivalent outcomes to psychologists in the delivery of CBT-I for uncomplicated insomnia and equivalent outcomes to sleep specialist in the management of moderate to severe sleep apnoea.

A national training program for nurses, focused on sleep health and sleep disorders needs to be developed. With adequate funding, expertise exists within the ASA and Australian College of Nursing to develop such a high-impact and cost-effective program. The educational programs would be designed for use by nurses who work in general practice and in hospitals. Assessment and certification would be built into all nurse-orientated courses.

Action Required

- Develop and deliver educational programs for GPs, psychologists, dentists, pharmacists and nurses while ensuring that the delivery methods are suitable for metropolitan, rural and remote settings.
- Develop course content and delivery by professional educators and Australasian Sleep Association (ASA) members.
- Assessment and certification to be built into all courses.

(d) Funding rationale

We request funding for an Education and Training Program for Health Professionals totaling \$10.935 million over three years (Table 3). Elements of the budget include provision of funds for development of educational material, development of audio-visual and digital media (including online tools and resources), management and operational costs including travel costs. A priority is to develop evidence-based programs, informed by Australian experts in the field, and for these programs to be accessible across the nation.

Table 3. Estimated cost of 3-year education and training programs for health professionals

| Health Profession Group | Component Detail | 2019-20 Start-up (\$) | 2020-21 (\$) | 2021-22 (\$) | 2022-23 (\$) | TOTAL (\$) |
|-------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|
| General Practitioners | Assessment of current status including surveys and face to face qualitative research | \$400,000 | | | | \$400,000 |
| | Development and delivery of online tools | \$90,000 | \$180,000 | \$180,000 | \$180,000 | \$630,000 |
| | Webinar development and delivery | \$30,000 | \$60,000 | \$60,000 | \$60,000 | \$210,000 |
| | Development and delivery of GP desktop programs | \$100,000 | \$150,000 | \$150,000 | \$150,000 | \$550,000 |
| | Dissemination, engagement and promotion of educational programs to GPs | \$80,000 | \$100,000 | \$100,000 | \$100,000 | \$380,000 |
| | Management of accreditation process | \$10,000 | \$25,000 | \$25,000 | \$25,000 | \$85,000 |
| | IT support and graphic design | \$40,000 | \$60,000 | \$60,000 | \$60,000 | \$220,000 |
| | Office expenses | \$30,000 | \$50,000 | \$50,000 | \$50,000 | \$180,000 |
| | Project Personnel (with leave, super): – Manager (1.0FTE) – Officer (0.5FTE) | \$170,000 \$60,000 | \$174,000 \$87,000 | \$178,000 \$89,000 | \$182,000 \$91,000 | \$704,000 \$327,000 |
| | Travel and professional expenses | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Support to link up sleep centres and GP practices | \$20,000 | \$15,000 | \$15,000 | \$15,000 | \$65,000 |
| Psychologists | Development of online modular courses | \$60,000 | \$120,000 | \$120,000 | \$120,000 | \$420,000 |
| | IT support and graphic design | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Office expenses | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Project Personnel (with leave, super): – Manager (1.0FTE) – Officer (0.5FTE) | \$170,000 \$60,000 | \$174,000 \$87,000 | \$178,000 \$89,000 | \$182,000 \$91,000 | \$704,000 \$327,000 |
| | Travel and professional expenses | \$15,000 | \$30,000 | \$30,000 | \$30,000 | \$105,000 |
| Dentists | Development of online modular courses | \$40,000 | \$100,000 | \$100,000 | \$100,000 | \$340,000 |
| | IT support and graphic design | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Office expenses | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Project Personnel (with leave, super): – Manager (1.0FTE) – Officer (0.5FTE) | \$170,000 \$60,000 | \$174,000 \$87,000 | \$178,000 \$89,000 | \$182,000 \$91,000 | \$704,000 \$327,000 |
| | Travel and professional expenses | \$15,000 | \$30,000 | \$30,000 | \$30,000 | \$105,000 |
| Pharmacists | Development of online modular courses | \$40,000 | \$80,000 | \$80,000 | \$80,000 | \$280,000 |
| | IT support and graphic design | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Office expenses | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Project Personnel (with leave, super): – Manager (1.0FTE) – Officer (0.5FTE) | \$170,000 \$60,000 | \$174,000 \$87,000 | \$178,000 \$89,000 | \$182,000 \$91,000 | \$704,000 \$327,000 |
| | Travel and professional expenses | \$15,000 | \$30,000 | \$30,000 | \$30,000 | \$105,000 |
| Nurses | Development of online modular courses | \$40,000 | \$100,000 | \$100,000 | \$100,000 | \$340,000 |
| | IT support and graphic design | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Office expenses | \$20,000 | \$40,000 | \$40,000 | \$40,000 | \$140,000 |
| | Project Personnel (with leave, super): – Manager (1.0FTE) – Officer (0.5FTE) | \$170,000 \$60,000 | \$174,000 \$87,000 | \$178,000 \$89,000 | \$182,000 \$91,000 | \$704,000 \$327,000 |
| | Travel and professional expenses | \$15,000 | \$30,000 | \$30,000 | \$30,000 | \$105,000 |
| TOTAL | | \$2,370,000 | \$2,825,000 | \$2,855,000 | \$2,885,000 | \$10,935,000 |

Background of our Organisations

The Sleep Health Foundation

The Sleep Health Foundation ('the Foundation') is a not-for-profit body that was founded in 2010 to help in improving people's lives through better sleep. In the time since it was established it has become the leading national advocate for healthy sleep and its work has impacts worldwide.

It aims to promote sleep health, raise awareness of sleep disorders and build partnerships with organisations with complementary objectives. It is now the go-to organisation for quality, community-orientated sleep health information and is rapidly developing a large network of interactions with other health orientated not-for-profit organisations and relevant industry-related groups. It is a trusted source for objective information regarding sleep and its problems and is widely used by media outlets and public alike. Its website (www.sleephealthfoundation.org.au) receives more than 1000 visits a day and it has active social media platforms. It is sought by print and electronic media for sleep health-related information and its regular media releases receive impressive take-up, reflecting the interest in sleep related issues of the community and the relevance these have to their daily lives.

Among its many activities, the Foundation has a well-developed and growing Speaker Program, with over 40 presentations nationally each year to community groups, schools and the industry/corporate sector, providing a solid basis on which to build a more ambitious speaking program. It is developing a library of quality audio-visual materials to complement these face-to-face seminars.

Included in the Foundation's various pursuits are the promotion of two key initiatives for school-aged children at upper primary school level. The university-developed and tested Healthy Heroes Sleep Module and World Sleep Day sleep health activities are hosted on its website. These teacher-led activities were delivered across 51 Australian schools when we made the program a campaign focus for World Sleep Day one year. This program, jointly undertaken by the Sleep Health Foundation and the Australasian Sleep Association, won the international 'Distinguished Activity Award' presented by the World Association of Sleep Medicine.

Apart its public education role, the Foundation has regularly commissioned research into national sleep habits, sleep disorders and the economic aspects of inadequate sleep. In doing so it has been careful to use authoritative sources and much of the work it has commissioned has subsequently appeared in peer-reviewed medical / scientific literature, attesting to its value and veracity. These reports and the subsequent papers are summarized in the 2018 Sleep Health Foundation annual report, available at the foundation website.¹ These studies provide the community with reliable data on which to develop an understanding of the extent of the nation's sleep problems, their economic costs and the ways in which these issues might be addressed.

The Australasian Sleep Association

The Australasian Sleep Association (ASA), is the peak scientific body in Australia & New Zealand representing clinicians, scientists and researchers in the broad area of Sleep.

The ASA has a track record of developing educational tools and programs for GPs; three accredited category one online learning activities have been developed with the RACGP on chronic sleep disorders (OSA, insomnia, and paediatric sleep disorders).

The ASA has a strong record of developing and delivering educational programs for psychologists: it has developed a practice certificate in sleep psychology with the Australian Psychological Society.

Mission: To lead and promote sleep health and sleep science in Australia and New Zealand and to facilitate the professional development of its members by providing education and training, fostering research and establishing clinical standards within the field.

Vision: Provision of world standard research, education and training, and establishment of clinical standards to ensure clinical best practice in sleep medicine resulting in an informed community with healthy sleep practices.

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**Sleep
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