



Australian Government

**Australian Government response to the
House of Representatives Standing Committee on Health,
Aged Care and Sport report:**

**Bedtime Reading: Inquiry into Sleep Health Awareness in
Australia**

2 August 2023

Introduction

The Australian Government is providing a response to the Standing Committee on Health, Aged Care and Sport's (the Committee) report *Bedtime Reading: Inquiry into Sleep Awareness in Australia* released in April 2019.

On 13 September 2018, the then Minister for Health referred the Inquiry into Sleep Health Awareness in Australia to the Committee.

The Committee was tasked with inquiring into and reporting on sleep health awareness in Australia, in particular:

1. The potential and known causes, impacts and costs (economic and social) of inadequate sleep and sleep disorders on the community;
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 people;
3. Education, training and professional development available to healthcare workers in the diagnosis, treatment and management of individuals experiencing inadequate sleep and sleep disorders;
4. Workplace awareness, practices and assistance available to those who may be impacted by inadequate sleep or sleep disorders, with a focus on: rostering practices for shift workers, heavy-work requirements, and the transport industry as compared to international best practice; and
5. Current national research and investment into sleep health and sleeping disorders.

The Committee received 138 submissions and 30 exhibits, and held four public hearings in Sydney, Melbourne, Canberra and Perth.

The final report makes 11 recommendations to the Australian Government, in relation to national health priorities; guidelines for workplaces; the Medicare Benefits Schedule (MBS) and the Orphan Drug program; market competition; research; General Practitioners (GP) and specialist treatment; community awareness, and vulnerable groups.

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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.

Response:

The Australian Government **supports** the recommendation.

There is evidence which supports the importance of sleep for good health, general wellbeing, and overall quality of life. Sleep is thought to help keep the immune system strong and heart and blood vessels healthy. It allows for growth and healing and helps control appetite and weight. Insufficient sleep can negatively affect health and has been linked to a range of problems with physical health, such as heart disease, high blood pressure, type 2 diabetes and even premature death, as well as with mental health, including depression and anxiety.

The Government has developed the National Preventive Health Strategy (NPHS) which outlines the overarching, long-term approach to prevention in Australia over the next 10 years. The NPHS aims to improve health and wellbeing and decrease the burden of disease for all Australians, through a whole-of-systems approach to prevention that addresses the wider determinants of health and promotes health equity. The NPHS recognises that sleep, alongside nutrition and physical activity, is essential to preventing poor physical health and wellbeing. The length and quality of sleep over the life course is also recognised as one of many protective factors that contribute to positive mental health and wellbeing.

Evidence indicates that developing and maintaining good sleep habits can support positive health outcomes, particularly where these habits are established at an early stage of the life course.

In 2017 and 2019, the then Department of Health reviewed and updated its physical activity guidelines for children aged 0-5 years (released in 2017), and children and young people aged 5-17 years (released in 2019). The evidence review found that shorter sleep duration is adversely associated with adiposity, emotional regulation, growth, and cognitive development. To better reflect the importance of sleep for good health in infants, children and young people, the guidelines include a 24-hour integrated approach. This approach acknowledges that activity throughout the whole day is important and considers interrelated behaviours such as physical activity, sedentary behaviour, sleep and screen time use. The guidelines are now known as: 24-Hour Movement Guidelines for the Early Years (0-5 years), and 24-Hour Movement Guidelines for Children and Young People (5-17 years).

In 2022, the Government committed to a review and update of the Australian Physical Activity Guidelines for Adults (18-64 years) and Older Australians (aged 65 years and over). The updated guidelines will incorporate the latest evidence and integrate 24-hour movement behaviours including physical activity, sedentary behaviour and sleep. This update will ensure consistency with the NPHS to incorporate sleep and screen time recommendations for all age groups into national guidelines and policies where appropriate.

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.

Response:

The Government **supports in-principle** the recommendation and acknowledges the negative impacts inadequate sleep and sleep disorders have on work performance, safety and health.

Safe Work Australia (SWA) is a statutory body established in 2009 to develop the model work health and safety (WHS) laws and national policy on WHS and workers' compensation.

The *Safe Work Australia Act 2008* (Cth) (the Act) sets out SWA's role and functions. One of SWA's statutory functions is to develop, maintain and, if necessary, revise the model WHS laws, which are comprised of the model WHS Act, model WHS Regulations and model Codes of Practice. This function includes preparing other material relating to WHS (such as guidance) that supports the consistent interpretation of the model WHS laws and compliance with the model WHS laws framework.

The activities that SWA is to undertake in the performance of its functions are set out each year in an Operational Plan, which is agreed by Commonwealth, state and territory ministers responsible for WHS (WHS ministers).

SWA is a tripartite body with 15 members comprising representatives of the Commonwealth, state and territory governments, workers and employers. The work undertaken by SWA is subject to the support of SWA Members, whose authority and voting arrangements are set out in the Act.

SWA has developed a range of guidance material on fatigue and shift work. The Fatigue Guide outlines the relevant duties in the model WHS laws and provides practical guidance on managing fatigue, and risk factors to consider in shift design. However, as SWA is not a regulator, it cannot provide specific advice on fatigue management and shift design to workplaces. The Commonwealth, and each state and territory, are responsible for implementing, regulating and enforcing WHS laws in their own jurisdiction.

The duties in the model WHS laws and the Fatigue Guide also do not replace other requirements relating to fatigue for certain kinds of work, for example, the National Transport Commission's Guidelines for Managing Heavy Vehicle Driver Fatigue under the heavy vehicle driver fatigue laws and the National Rail Safety Regulator's Guidance on Fatigue Risk Management under the national rail safety laws. Working hours may also be subject to requirements under workplace instruments, such as modern awards or enterprise agreements.

While the Government notes the value of ensuring the currency of the Fatigue Guide, the decision as to whether SWA undertakes this work would be subject to the requisite support of SWA and, where required, WHS Ministers. It is also noted that the Alertness Cooperative Research Centres closed on 30 June 2020 following its seven-year term.

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.*

Response:

The Australian Government **supports in-principle** the recommendation and notes that the model WHS laws provide for a nationally consistent principles-based approach to the management of workplace health and safety.

Australia has model WHS laws that have been adopted in all jurisdictions except Victoria (which has similar laws in place). The model WHS laws place duties on persons conducting a business or undertaking (PCBUs), officers, workers and other persons to ensure health and safety at work.

The model WHS laws provide a nationally consistent approach to managing fatigue related risks to health and safety. The principles-based duties in the model WHS laws provide flexibility to adopt control measures to address the risks and operating environment of the particular workplace. The laws therefore do not set prescriptive or uniform requirements in relation to working hours, rest breaks or other control measures to manage the risks of fatigue.

Under the model WHS laws PCBUs have a primary duty of care to ensure, so far as is reasonably practicable, the health and safety workers and other persons in relation to work undertaken by the business or undertaking. This includes ensuring, so far as is reasonably practicable:

- provision and maintenance of a work environment without risks to health and safety
- provision and maintenance of safe systems of work, and
- monitoring the health of workers and the conditions at the workplace for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking.

To meet this duty a PCBU must eliminate or minimise risks to health and safety so far as is reasonably practicable, wherever workers undertake work and whatever work they do. This includes managing the risk of fatigue at work.

The model WHS laws also require PCBUs to consult with workers on any matter directly affecting their work health or safety, such as the risk of fatigue at works. This includes when identifying and controlling the risk of fatigue at work. Consultation with workers is core to the process and can provide insight into the risks in the workplace and how they can be managed.

Workers have a duty under WHS laws to:

- take reasonable care for their own health and safety while at work
- take reasonable care so that their acts or omissions do not adversely affect the health and safety of other persons at the workplace.
- comply, so far as they are reasonably able to, with any reasonable instruction that is given by the PCBU to allow the PCBU to comply with the model WHS Act;
- and co-operate with any reasonable work health and safety policy or procedure that has been notified to them.

This duty works well in the context of managing the risk of fatigue at work as it:

- recognises that workers also need to take reasonable steps to manage their fatigue, including by taking provided rest breaks or complying with fatigue policies; and
- acknowledges that on a PCBU's duty to manage risks to a worker's health and safety is limited to work-related factors within the PCBU's control.

Under the National Employment Standards in the *Fair Work Act 2009* (Cth), an employer must not request or require an employee to work more than the following hours of work in a week, unless the additional hours are reasonable:

- for a full-time employee, 38 hours or
- for an employee other than a full-time employee, the lesser of:
 - 38 hours; or
 - the employee's ordinary hours of work in a week.

An employee may refuse to work additional hours if they are unreasonable. In determining whether additional hours are reasonable or unreasonable, the following must be taken into account:

- any risk to employee health and safety;
- the employee's personal circumstances, including family responsibilities;
- the needs of the workplace or enterprise;
- whether the employee is entitled to receive overtime payments, penalty rates or other compensation for (or a level of remuneration that reflects an expectation of) working additional hours;
- any notice given by the employer to work the additional hours;
- any notice given by the employee of his or her intention to refuse to work the additional hours;
- the usual patterns of work in the industry;
- the nature of the employee's role and the employee's level of responsibility;
- whether the additional hours are in accordance with averaging provisions included in an award or agreement that is applicable to the employee, or an averaging arrangement agreed to by an employer and an award/agreement-free employee; and
- any other relevant matter.

Both frameworks provide overarching national consistency, whilst acknowledging the necessity for, and flexibility required in managing varied risks across differing industries and occupations, including high-risk industries. In addition, modern awards and enterprise agreements provide for breaks, shift loadings, ordinary hours of work and overtime pay for shift workers. These standards are set at the industry, occupation or enterprise level.

The Government also notes that some high-risk industries using shift work, such as the road transport and rail industries, are subject to additional or separate requirements in relation to fatigue management.

SWA has developed the Fatigue Guide that is designed to be generally applicable to work and workplaces covered by the model WHS laws. It supports PCBUs to consult with workers, identify whether fatigue is a hazard in their workplace, assess the risks, implement control measures and review those controls to ensure they are working as planned. As discussed in relation to Recommendation 2, the Fatigue Guide was not designed to provide information on managing fatigue in specific workplaces or industries, and does not replace requirements in relation to managing fatigue under other laws such as the Heavy Vehicle National Law or the Rail Safety National Law.

Noting the Government support for Recommendation 2, any further alignment of policy and legislation in regard to a nationally consistent approach to working hours and rest breaks based on updated fatigue guidelines, including consideration of whether there is a need for sleep health screening for shift workers would be a matter for consideration by SWA and, where required, jurisdictional WHS Ministers.

Recommendation 4

The Committee recommends that the Department of Health undertake a review of the Medicare Benefits Schedule (MBS) as it relates to sleep health services in Australia. The review should include, but not be limited to, the following:

- *simple diagnostic sleep studies (Level 3 and Level 4) that do not currently attract Medicare rebates;*
- *ensuring recent changes to enable general practitioners to directly refer patients to diagnostic sleep studies are effective; and*
- *barriers to accessing Cognitive Behavioural Therapy for Insomnia via telehealth for patients in regional, rural, and remote areas.*

Response:

The Australian Government **supports in-principle** the recommendation.

The MBS items for sleep health services have been reviewed by the clinician-led MBS Review Taskforce (the Taskforce).

In 2017, the Taskforce provided recommendations to Government on a range of MBS funded sleep health services, including sleep studies. The recommendations were based on the expert advice of the Thoracic Medicine Clinical Committee, which performed a comprehensive review of these services from September 2015 to October 2016. Sleep studies are categorised into four types and recommendations comprised considerable changes to the MBS arrangement for Level 1 and Level 2 sleep studies, including improved patient assessment and management requirements and a new referral pathway which enabled general practitioners to directly refer patients to diagnostic sleep studies using validated screening questionnaires. These were implemented on the MBS on 1 November 2018.

Level 3 and Level 4 sleep studies do not currently attract MBS rebates. The Medical Services Advisory Committee (MSAC) would be best placed to determine the suitability of these services for public funding. The Government also notes that while MSAC has previously supported public funding for Level 2 (with caveats), it has not supported public funding Level 3 or Level 4 sleep studies. MSAC is considering a new application for out of laboratory sleep studies (Levels 2-4) in the diagnosis and management of sleep disordered breathing in children and adolescents (MSAC application 1712). MSAC's full advice in relation to these services is available on the MSAC website at: www.msac.gov.au.

In regard to access to Cognitive Behavioural Therapy via telehealth, the Taskforce were provided with 21 individual MBS telehealth recommendations, including the Mental Health Reference Group's recommendation 14, to review the recent expansion to mental health telehealth services in rural and remote areas. The 21 recommendations were considered in the broader context of MBS Telehealth and a separate report was developed by the Taskforce.

The Taskforce findings were provided to Government in late 2020 for consideration.

Permanent telehealth arrangements funded under the MBS were introduced on 1 January 2022.

These arrangements provide patient rebates for a wide range of telephone and video services by medical specialists and support safe and equitable telehealth services which are informed by the MBS Review Taskforce Principles for telehealth.

Recommendation 5

The Committee recommends that the Australian Government work with the states and territories, and provides funding where necessary, to:

- *ensure that all Pensioner or Health Care Card holders with moderate to severe obstructive sleep apnoea, regardless of their location, have access to a free trial of Continuous Positive Airway Pressure (CPAP) therapy and if the trial is successful free ongoing CPAP treatment; and*
- *undertake a review to assess the potential benefits of providing subsidised CPAP therapy across the broader Australian community.*

Response:

The Australian Government **supports in-principle** the recommendation.

Medicare rebates are available for clinically relevant professional services listed on the MBS, but not for consumable products or medical devices such as Continuous Positive Airway Pressure (CPAP) machines.

Medical equipment facilities are privately owned commercial entities which preclude the Government from setting the price of sleep therapy devices. Many businesses offer personalised payment plans that reduce some of the financial barriers to ownership of personal CPAP machines.

State and territory governments operate aids and appliance programs to assist residents with the cost and/or provision of appropriate equipment, aids and appliances in the community setting. Each state and territory determine its priorities and allocates funds for aids and appliances between the many competing areas of government spending. Many states and territories also offer financial aid grants and interest-free loans to people on low incomes who need assistance purchasing essential personal or household items.

The Government provides additional support for people and carers through the Essential Medical Equipment Payment (EMEP). The EMEP is an annual payment to assist with energy costs associated with the use of eligible essential medical equipment. More information is available from the Services Australia website: www.servicesaustralia.gov.au/individuals/services/centrelink/essential-medical-equipment-payment.

With regard to the pharmacy sector, there are no current funding arrangements between the Government and the pharmacy sector to provide CPAP therapy, however, some pharmacies provide CPAP machine fitting consultations and rental services. These services are provided at a cost to the patient.

Community pharmacy is an integral part of the Australian healthcare system through its role in the delivery of the Pharmaceutical Benefits Scheme (PBS) and related services. The Government provides funding to community pharmacies through the Seventh Community Pharmacy Agreement (7CPA) between the Commonwealth, the Pharmacy Guild of Australia, and the Pharmaceutical Society of Australia.

This agreement commenced on 1 July 2020 and will remain in place until 30 June 2025. There is no direct provision in the 7CPA to fund CPAP therapy.

Recommendation 6

The Committee recommends that the Australian Government and the Australian Competition and Consumer Commission monitor the Continuous Positive Airway Pressure (CPAP) industry to ensure that vertical integration in the industry does not result in actions that:

- *Limit the quality of care or clinical advice provided to patients; or*
- *Result in anti-competitive behaviour in the industry.*

Response:

The Australian Government **notes** the recommendation.

The Australian Competition and Consumer Commission (ACCC) is the independent Commonwealth statutory authority responsible for enforcing the *Competition and Consumer Act 2010* (Cth) (the CCA). If anti-competitive conduct were to be identified in the CPAP industry, the ACCC would determine any appropriate investigatory steps to be taken in accordance with its published Compliance and Enforcement Policy and Priorities.

The ACCC does not have regulatory responsibility for the quality of care and/or clinical advice provided to patients. Concerns or complaints regarding inappropriate clinical recommendations and prescriptions are overseen by the Australian Health Practitioner Regulation Agency and Practitioner Review Program.

CPAP products and devices used in diagnosis of sleep apnoea and other sleep disorders are regulated as medical devices by the Therapeutic Goods Administration (TGA). The TGA is responsible for ensuring that medical devices supplied in Australia are safe and perform as intended. Medical devices intended to be used in combination with other devices or equipment (including diagnostic tests or equipment) are required to be designed and manufactured in a way that ensures that:

- the medical device, and any other device or equipment with which it is used, operate in a safe way; and
- the intended performance of the device, and any other device or equipment with which it is used, is not impaired.

Recommendation 7

The Committee recommends that if there is no distributor willing to put forward a submission, the Australian Government work with patient advocacy groups such as Narcolepsy Australia or the Sleep Health Foundation to make a submission for the listing or registration of Sodium Oxybate under the Orphan Drug Program.

Response:

The Australian Government **supports in-principle** the recommendation and can advise a potential sponsor on making a submission in line with established TGA processes.

The TGA is responsible for ensuring that therapeutic goods available for supply in Australia are safe and effective for their intended purpose. It is possible for any person, company, professional group or advocacy group to become a sponsor if they are able to take on the legal responsibilities of a sponsor which include ongoing post market monitoring requirements.

The TGA provides a number of services to assist sponsors who are not familiar with the regulatory requirements for registering therapeutic goods on the Australian Register of Therapeutic Goods. These services include the Small and Medium Enterprise (SME) Assist function of the TGA. SME Assist helps SMEs, start-ups, researchers and those unfamiliar with Australia's therapeutic goods regulation to understand their regulatory and legislative obligations, including those relating to orphan drugs. The SME Assist webpage features guidance articles covering the basics of regulation, interactive decision tools, and the opportunity to attend educational workshops across Australia. The TGA can contact relevant advocacy groups to provide information about the Orphan Drug Program and related regulatory processes.

The TGA also undertakes pre-submission meetings with potential sponsors, on their request, to discuss proposed submissions. More information about pre-submission meetings is available on the TGA website at www.tga.gov.au/publication/pre-submission-meetings-tga.

Further information regarding the criteria for orphan drug designation is available on the TGA website at www.tga.gov.au/publication/orphan-drug-designation-eligibility-criteria.

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 campaign should:

- *promote sleep as the foundation of ensuring positive health and wellbeing outcomes in combination with nutrition and exercise;*
- *provide practical information in relation to sleep hygiene and measures an individual can use to improve their sleep;*
- *provide information on the symptoms, causes, and health impacts of sleep disorders and available medical support for sleep disorders;*
- *communicate that improved sleep health can reduce the risk of: developing a serious health condition, impaired judgement and mental functioning, and decreased productivity and performance; and*
- *consider the proposed education campaign developed by the Australasian Sleep Association and the Sleep Health Foundation as part of their 2019 budget submission as a solid basis and estimate of costs for such a campaign.*

Response:

The Australian Government **supports in-principle** the recommendation.

The Government recognises the value of increasing community awareness of the importance of sleep health in reducing the risk of chronic disease and supporting health and wellbeing. Promoting the importance of sleep health to the general community may be of more benefit if combined with consistent messaging about the importance of a healthy diet and physical activity. The Government will work to identify opportunities to include messaging on the importance of sleep in any future campaigns related to preventive health, potentially in conjunction with states and territories, as well as relevant stakeholders.

The NPHS, which provides the platform for preventive health reform in Australia over the next 10 years, recognises the importance of sleep for promoting health and wellbeing. The NPHS outlines a policy achievement by 2030 to have sleep and screen time recommendations for all age groups incorporated into national guidelines and policies, such as the national 24-hour movement guidelines, where appropriate. The NPHS also recognises the importance of using evidence-based dissemination strategies to promote health information.

Recommendation 9

The Committee recommends that the Australian Government in consultation with the Royal Australian College of General Practitioners and other key stakeholders:

- *Assess the current knowledge levels of general practitioners, nurses and psychologists in relation to sleep health, and*
- *Develop effective training mechanisms to improve the knowledge of primary healthcare practitioners in diagnosing and managing sleep health problems.*

Response:

The Australian Government **supports in-principle** the recommendation.

The curriculum and continuing professional development requirements that apply to primary health practitioners are matters for the accrediting bodies of each of the relevant professions. In relation to general practice, the Royal Australian College of General Practitioners (RACGP) and the Australian College of Rural and Remote Medicine (ACRRM) set their own curricula for vocational general practice training in Australia.

The professional bodies representing primary health practitioners may be better placed to consider this recommendation. These include the two general practice colleges along with various nursing bodies including the Australian Primary Health Care Nurses Association, Australian College of Nursing, Nursing and Midwifery Board of Australia, Australian College of Nurse Practitioners; and the Australian Psychological Society.

Recommendation 10

The Committee recommends that the Australian Government investigate options to separate the existing 'Respiratory and Sleep Medicine' speciality into independent 'Respiratory' and 'Sleep Medicine' specialities under the Australian Health Practitioners Regulation Agency framework.

Response:

The Australian Government **supports in-principle** the recommendation.

The *Health Practitioner Regulation National Law* outlines the legislative process to approve specialties and specialist titles to be used by medical practitioners. The National Law is enacted in each state and territory and there is no corresponding Commonwealth legislation. The Medical Board of Australia's (MBA) *Guidelines for the Recognition of Medical Specialties and Fields of Specialty Practice under the Health Practitioner Regulation National Law* states that the assessment of applications for recognition of new medical specialties is conducted by the MBA and the Australian Medical Council, as the body responsible for accrediting programs of study that lead to specialist registration in Australia. If recommended by the MBA, endorsement is sought from Health Ministers.

Additionally, an effective and efficient medical workforce requires a balance of doctors with broad and narrow scopes of practice across primary, secondary and tertiary care. The Australian Government, in collaboration with state and territory governments and medical workforce stakeholders, is progressing work to implement the National Medical Workforce Strategy (the Strategy). The Strategy includes a range of actions that address imbalances in the scope of practice of some medical practitioners that currently favours subspecialisation.

General practitioners (GP) and generalist non-GP specialists who operate across the full scope of practice within their specialty are vital to the delivery of high-quality care, especially in rural and remote areas. As the workforce becomes more subspecialised, it also becomes less flexible. This may lead to fragmented patient care between multiple subspecialists, and an increase in the risk of adverse events. The Strategy seeks to shift the balance between generalists and subspecialists back towards generalists. This includes growing the number of GPs and rural generalists and increasing opportunities and recognition for doctors to supplement their skills and broaden their scope of practice. This may better enable doctors to adjust their scope of practice to meet changing service needs, and to work more effectively in regional and rural areas.

This focus is consistent with feedback from the sector in national consultations that have been conducted to inform the development of the Strategy.

Recommendation 11

The Committee recommends that the Australian Government fund research focussed on:

- *the prevalence of sleep disorders with a particular focus on under-researched population groups such as women and Aboriginal and Torres Strait Islander peoples;*
- *the prevalence, causes, and mechanisms of rare or not well understood sleep disorders, including narcolepsy and idiopathic hypersomnia;*
- *further analysis of existing population health and longitudinal studies that have collected data relating to sleep;*
- *the impact of long-term shift work on sleep health and potential measures to minimise the associated health risks; and*
- *the effects of digital devices and electronic media on sleep health, especially among children and adolescents.*

Response:

The Australian Government **supports in-principle** the recommendation.

The Australian Government currently funds research focused on sleep and sleep disorders through the contestable Medical Research Future Fund (MRFF) grant opportunities, and the National Health and Medical Research Council (NHMRC).

Medical Research Future Fund

The MRFF, established under the *Medical Research Future Fund Act 2015* (MRFF Act), provides grants of financial assistance to support vital health and medical research and innovation to improve the health and wellbeing of Australians.

Under a \$5 billion 10-year Investment Plan announced as part of the 2019-20 Budget, funding for sleep and sleep disorders research could be supported through a range of MRFF initiatives where relevant to the objective of the initiative and the grant opportunity.

To date, the MRFF has funded two sleep-related projects as outlined in Table 1 – MRFF Sleep Related Research Projects. Other grants with sub-projects, such as through the Rapid Applied Research Translation initiative, also have a focus on sleep-related projects.

Table 1 - MRFF Sleep-Related Research Projects

MRFF Initiative	Project Name	Plain Language Project Summary	Funding
Next Generation Clinical Researchers Program, The University of Adelaide	Sleep apnoea and atrial fibrillation	Atrial fibrillation (AF) is the most common sustained cardiac rhythm disorder. Obstructive sleep apnoea (OSA) is four times more common among patients with AF than without. OSA has been associated with a greater recurrence rate of AF after initially successful chemical or electrical cardioversion or pulmonary vein isolation by catheter ablation.	\$431,000 (GST exclusive)
Indigenous Health Research Fund, The University of Queensland	Co-designed sleep health program to achieve better sleep and improved mental health symptoms in First Nations adolescents	The project aims to co-design and deliver a sleep health program for First Nations adolescents and evaluate its feasibility, acceptability and effectiveness. This program is rooted in the First Nations Australians conceptualisation of sleep health, capacity building of Aboriginal youth workers and bringing together First Nations Australians community, mental health and primary care services, and advocacy partners to co-design a solution for improving the mental health of First Nations adolescents through healthy sleep.	\$586,961 (GST exclusive)

The National Health and Medical Research Council

The NHMRC has provided \$158.0 million to support 336 grants relating to sleep or sleep disorders between 2000 and 2021.

Table 2 provides a breakdown of the NHMRC supported sleep research between the years 2000 and 2021, by broad research area.

Table 2 - NHMRC supported research relating to sleep or sleep disorders

Broad Research Area	Expenditure 2000-2021	Percentage of Total	Number of Grants
Clinical Medicine and Science	\$107,809,182	68%	233
Basic Science	\$31,028,351	20%	62
Public Health	\$15,472,909	10%	35
Health Services Research	\$3,650,104	2%	6
Total	\$157,960,546	100%	336

For specific sleep conditions, research related to sleep apnoea received approximately \$ 88 million between the years 2000 and 2021, constituting approximately 56% of total sleep-related research. Further information is outlined in Table 3.

Table 3 - NHMRC supported research for specific sleep conditions

Sleep Condition	Total Expenditure 2000-2021*	Percentage of Total Sleep Research
Sleep apnoea	\$88,319,934	56%
Insomnia	\$22,048,331	14%
Narcolepsy	\$814,385	1%
Sleep research not attributed to the conditions above**	\$46,777,896	30%
Total Sleep Research	\$157,960,546	100%

*NHMRC grants can be attributed to multiple sleep conditions, which may result in a small amount of double counting between the specific sleep conditions listed above.

**Includes all other sleep research not specifically attributed to sleep apnoea, insomnia, or narcolepsy. This includes the Centre of Research Excellence to Optimise Sleep in Brain Ageing and Neurodegeneration (CogSleep), the effects of sleep on depression or ADHD, the Centre of Research Excellence for Early intervention for mood disorders, wind farms and human health research, as well as other sleep-related basic science research, clinical science research, and health services research.

As classified by the Australian and New Zealand Standard Research Classifications (ANZSRC) Field of Research, NHMRC supported sleep research covered approximately 60 different fields of research as classified at the six-digit level. The largest was Respiratory Diseases, which received \$44.3 million to support 103 grants (approximately 30% of the total). Further information is outlined in Table 4.

Table 4 - NHMRC supported sleep research by Field of Research

Field of Research	Total expenditure 2000 to 2021	Percentage of Total	Number of Grants
Respiratory Diseases	\$44,345,191	28%	103
Clinical Sciences not elsewhere classified	\$17,220,413	11%	26
Paediatrics	\$10,218,255	6%	28
Systems Physiology	\$6,476,138	4%	15
Central Nervous System	\$6,404,971	4%	13
Endocrinology	\$4,840,620	3%	7
Epidemiology	\$4,607,468	3%	7
Medical and Health Sciences not elsewhere classified	\$3,920,967	2%	8
Clinical Sciences NEC	\$3,579,365	2%	7
Health, Clinical and Counselling Psychology	\$3,498,096	2%	9
Biological Psychology (Neuropsychology, Psychopharmacology, Physiological Psychology)	\$3,486,451	2%	5
Cardiology (incl. Cardiovascular Diseases)	\$2,907,718	2%	8
Autonomic Nervous System	\$2,706,495	2%	8
Community Child Health	\$2,525,919	2%	3
Sensory Systems	\$2,525,120	2%	6
Environmental and Occupational Health and Safety	\$2,279,776	1%	5
Motor Control	\$2,097,741	1%	1
Biologically Active Molecules	\$2,064,349	1%	2
Medical Physiology NEC	\$1,995,723	1%	4
Public Health and Health Services not elsewhere classified	\$1,984,022	1%	3
Other codes (approx. 40 codes with <1% each)	\$28,275,748	18%	68
Total Expenditure	\$157,960,546	100%	336

Note: Older grants may still be classified on older versions of the ANZSRC Field of Research codes.

The majority of sleep-related research was supported through the Project Grants scheme, which provided \$96.1 million (61%) to support 179 sleep-related grants between the years 2000 and 2021, as outlined in Table 5.

Table 5 - NHMRC supported sleep research 2000 to 2019 by funding scheme

Funding Scheme	Expenditure 2000 - 2021	Percentage of Total	Number of Grants
Project Grants	\$96,120,028	61%	179
Centres of Research Excellence	\$11,554,662	7%	5
Research Fellowships	\$9,249,234	6%	15
Early Career Fellowships	\$7,338,887	5%	27
Practitioner Fellowships	\$5,182,842	3%	12
Postgraduate Scholarships	\$4,181,771	3%	6
Targeted Calls for Research	\$4,150,750	3%	10
Boosting Dementia Research Initiative	\$4,002,092	3%	50
International Collaborations	\$3,628,308	2%	3
Career Development Fellowships	\$3,110,749	2%	3
Enabling Grants	\$3,017,065	2%	10
Development Grants	\$2,364,333	1%	7
Investigator Grants	\$1,671,026	1%	1
Ideas Grants	\$1,462,238	1%	4
Translating Research into Practice Fellowships	\$352,266	0%	2
Grand Total	\$291,292	0%	1