

TO: Inquiry into Mental Health and Addiction  
DATE: 5<sup>th</sup> June, 2018  
SUBJECT: Proposal on Sleep Health  
SUBMITTED BY: Doug Smith, MD

## **INTRODUCTION**

I am a psychiatric physician working for the Tairāwhiti DHB, and am writing with a brief proposal to include sleep at the forefront of New Zealand's health promotion efforts. This pragmatic and implementable proposal identifies a major unmet need related to how New Zealand can better prevent mental health and addiction challenges. Before detailing what this entails, let me share some background.

On the 28<sup>th</sup> of April, a charitable event took place in Gisborne called “Fishing For A Solution – Supporting Mental Health,” hosted by two young men from Campion College with Sir John Kerwin as the invited speaker. As a new psychiatrist in town, I hadn't heard about it until that same afternoon when I was evaluating another teenager, a lovely young woman who had tried to take her own life the day before and was ready to leave the ICU. After we had made a plan for her safety and ongoing care, the girl's family told me about the benefit taking place and encouraged me to attend. The evening talk by JK was inspiring, as was the sincerity of the two young hosts. Afterwards, I kept thinking about the name they had chosen for their community “impact project” - FISHING FOR A SOLUTION.

The first thing that came to mind was how naive it is to assume that there is one solution to all of the many challenges that fall under the mental health umbrella. A single solution implies a single problem. If there was one lesson I had learned over a 30 year career, it is that mental health problems are complex, multilayered and different for each individual, requiring a wide range of equally complex, multidisciplinary, individualized solutions. For this reason, psychiatry is often hardest medical specialty to do well and the easiest to do badly. Unfortunately, in the face of this complexity, uncertainty and terrible suffering, many in field yield to an optimistic yearning for simplicity - one theory, one therapy, one pill, one solution. The tragic results of these blind crusades have been predictable. The ancient Greeks understood this, and they called it Hubris.

Nevertheless, I found myself wondering about the two teen boys who set out fishing, with optimism, for the solution to our nation's growing mental health crisis. What might such an elusive solution look like? And how could they possibly pull it up from Tangaroa's murky depths?

We know there isn't a single solution to how mental health is promoted and supported in New Zealand, but what if abundant research had identified a way to prevent the most common cause of brain dysfunction and reduce risk for widespread health and social problems? What if this solution involved safe, simple, low-tech, low-cost approaches that everyday people could use by themselves?

Such a solution, the “big one” of our dreams, does exist. I have seen it. In fact, we all have. It is called sleep, and though it is just one of many things needed to improve mental health, it may be the biggest single evidence-based factor no one is talking about.

Public health campaigns centred on sleep as a solution to myriad public health problems have recently been proposed by national agencies in the USA and UK, but not yet implemented (see attachments). Perhaps it is time we New Zealanders set about learning how to catch and haul this public health solution into our waka.

## **SLEEP and HEALTH**

Proper sleep is critical for a healthy brain and there is compelling evidence that it reduces the risk of many physical, mental, behavioral and performance problems. This should not surprise us given the fact that the functions of our brains are what guide our perceptions, cognitions and behaviors and shape our physical, mental and social health. This becomes more and more the case as we navigate through a world of growing complexity. On the other hand, inadequate sleep is associated with significantly increased symptoms and worse outcomes for nearly all physical and mental health problems, including:

### *Performance problems from inadequate sleep...*

- ✗ Impaired frontal lobe function (executive functions)
- ✗ Reduced mood regulation
- ✗ Impulsivity
- ✗ Impaired attention and concentration
- ✗ Difficulty remembering and learning new information and skills
- ✗ Misperception and false memory for events
- ✗ Reduced stress tolerance
- ✗ Anger and frustration
- ✗ Impaired communication skills
- ✗ Impaired socialisation
- ✗ Errors, misunderstandings and disagreements
- ✗ Greater marital conflict and poorer relationships satisfaction
- ✗ Temper tantrums in children, and violence and interpersonal conflict in adults
- ✗ Impaired decision-making
- ✗ Reduced creativity
- ✗ Impaired multi-tasking
- ✗ Malaise and avoidance of common activities (school, sports, work, exercise, socializing)
- ✗ Being unemployed
- ✗ Qualifying for benefits

### *Mental health risks from inadequate sleep...*

- ✗ Anxiety and hyperarousal
- ✗ Overeating, gambling, drug and alcohol intoxication
- ✗ Alcohol and drug dependency and relapse
- ✗ Increased sedative and stimulant use
- ✗ Higher risk of suicide - sleep disturbance (such as insomnia and nightmares) is associated with an almost threefold increase in completed suicides.
- ✗ Psychiatric relapse
- ✗ Anxiety and panic symptoms
- ✗ Depressive and manic episodes
- ✗ Paranoia and psychotic symptoms
- ✗ Delirium with extreme sleep deprivation

*Physical health risks from inadequate sleep...*

- ✗ Heightened stress response
- ✗ Disorders of the Hypothalamic-Pituitary-Adrenal (HPA) axis
- ✗ Impaired immune function and increased risk of infection
- ✗ Increased cancer risk
- ✗ Increased blood pressure, cardiovascular disease and stroke
- ✗ Impaired glucose tolerance, metabolic abnormalities, weight gain & obesity
- ✗ Thermoregulatory problems
- ✗ Lowered seizure threshold
- ✗ Body aches due to inflammation and impaired pain regulation
- ✗ Chronic fatigue
- ✗ Road traffic accidents, injuries and deaths
- ✗ Accidental falls, fractures and injuries to oneself and others
- ✗ Repeat prescribing
- ✗ Less likely to attend appointments
- ✗ Longer hospital stays
- ✗ Earlier admission to long-term care
- ✗ Earlier onset of dementia

These well-established impacts of inadequate sleep on mental and physical health are highly relevant to the Government Inquiry into Mental Health and Addiction (the Inquiry). Compared to other solutions, improving sleep in Aotearoa could have the single biggest impact on the main goals of the Inquiry:

- ✓ Building positive mental wellbeing for all New Zealanders
- ✓ Helping people to deal with mental health challenges early (before specialist treatment is required)
- ✓ Enabling people to avoid becoming addicted to something that causes harm
- ✓ Preventing people from taking their own lives
- ✓ Making it easier and faster to identify when someone is facing mental health or addiction challenges and get them help more quickly
- ✓ Improving the quality of the support and interventions given to those who need it
- ✓ Soliciting any other ideas for improving mental health and wellbeing in Aotearoa

Although there are many determinants of brain health and function beyond sleep, none are as significant or as suitable for a national public health campaign. Improving NZ sleep health is essential and achievable. It is the low-hanging fruit for improving mental health. Here are eight reasons why.

1. Inadequate sleep is a common and growing problem.
2. Māori are more likely than Non-Māori to report usual sleep duration longer or shorter than recommended. Higher rates of unemployment, night work, and socioeconomic deprivation

among Māori contribute to these differences. Growing evidence suggests that poor sleep is an important mediator of many health disparities.

3. Inadequate sleep increases the incidence, severity and costs from physical and mental health problems, accidents and illnesses, interpersonal conflict, and educational, social and occupational difficulties.
4. Because sleep is the foundation for the collective brain health on which our society depends, the many benefits of improved sleep health will be woven through various inter-related policy areas, strengthening our social fabric. For this reason, the potential for improving our national sleep health should be a source of great hope.
5. At the individual level, non-medical approaches to improving sleep health can be low-tech and risk-free. They are generally low or no-cost, take little effort, and are sustainable. Improved sleep is often the first step on the path to self-care, recovery and empowerment.
6. At the community level, public health initiatives to improve sleep health can likewise be low-cost, low-risk and relatively easy to deploy.
7. At the national level, once an attitude that prioritizes adequate sleep is established and sleep-skills are widely shared, they can become a self-sustaining part of Kiwi culture – a crucial part of a shared tikanga that embraces a healthy body, brain, mind and spirit.
8. New Zealand can lead the way in making optimal sleep and brain health a global health priority for humanity.

## **PROPOSAL**

It is proposed that a top health goal for the Government, employers, educators and healthcare providers should be to improve sleep health and reduce sleep deprivation in New Zealand. We have local expertise at the forefront of this area, such as the New Zealand Sleep/Wake Centre at Massey University. It is also proposed that these local experts take the lead on helping the public to view sleep as central to our nation's health, and on helping guide the development of specific initiatives. Using the recommendations of the Royal Society for Public Health (RSPH) as a starting point, here are some suggestions:

### ***NZ Government***

The Government should develop, adopt and publish a national sleep strategy that recognizes the role of sleep in protecting against physical and mental health problems, ageing, accident and injury, and in underpinning a range of key health behaviours; alongside the need for effective treatment of disorders of sleep such as insomnia and sleep apnoea.

The evidence is overwhelming that sleep is of primary importance to physical and mental health, yet it has not been viewed as a priority area for public health and disease/accident/conflict prevention. For example, the preventative health/wellness initiatives listed on the Ministry of Health's website include: Family violence, Healthy Families NZ, Immunisation, The Mobility Action Programme, Nutrition, Oral health, Physical activity, Sexual and reproductive health, Social Bonds, Tobacco Control and screening programmes for bowel, breast and cervical cancer, newborn hearing and metabolic disorders. However,

despite clear evidence that sleep is a hugely important public health issue and one of the most important components of health protection and improvement, there is no mention of sleep health.

The Ministry's online resources on wellness include a section on "Food, activity and sleep," yet it treats sleep as an afterthought. For example, there is "Guidance on nutrition and physical activity for workplaces," but no guidance for workplaces regarding sleep. There is a "National Healthy Food and Drink Policy" and a "Healthy Food and Drink Policy for Organisations," but none for sleep.

Finding similar neglect of sleep health in the UK, the RSPH has recommended:

*Its value to the health and wellbeing of the population means that sleep should have parity with other public health issues and should be officially recognised in the remit of government Ministers . . . The multi-dimensional nature of sleep means that cross-departmental responsibility may be needed. Sleep has wide-reaching implications for disease, physical and mental health, healthy ageing, education, transport, employment, the NHS and business. Addressing all of these issues will need work across a number of departments under the direction of a Minister of State.*

### **Employers**

Sleep deprivation and sleep disorders are independently associated with risks of falls, fractures, and industrial and road traffic accidents. They also reduce job performance, and contribute to absenteeism and disability. Because of this, RSPH has recommended that the Health and Safety Executive (i.e. WorkSafe New Zealand) should enforce employers' health and safety duties when it comes to sleep:

*Employers have a legal duty to make sure reasonable measures are in place to remove or control the risks of work activities, including hours worked and how they are scheduled. As evidence emerges that risks of sleep disruption due to shift work are severe, employers must be made to show they are up to date with best practice for reducing the health risks from sleep and face legal consequences if not. Employers who operate shift or long hours work should provide information to employees on how to achieve healthy sleep and signpost them to effective online self-help resources and health services.*

### **Educators**

Sleep should be covered in the secondary school curriculum. It is well established that insufficient sleep associates with reduced attention, impaired learning, and poorer academic performance. As RSPH observed:

*Studies have shown teenagers deprived of sleep are more vulnerable to poor communication, decreased concentration and cognitive performance, unintended sleeps, decreased motor performance, increased risk taking and depression. Reducing levels of sleep deprivation among adolescents should be a key public health priority, as it impacts on a range of other health outcomes for young people into their adult lives and so research in this area is of the highest importance.*

Sleep education programs have been shown to significantly improve sleep onset latency, sleep efficiency and total sleep time which associated with an improvement in academic achievement in mathematics and English. Sleep education should be included as part of the knowledge, skills and attributes needed to stay healthy and safe, and to prepare for life and work in contemporary New Zealand.

Consideration should also be given to later start times for high schools. Several schools in the UK have decided to push back their opening hours to a time that may be better suited to the adolescent circadian rhythm.

### ***Health and Care Professionals***

GPs, nurses and other health workers typically ask service users about diet, physical activity, alcohol and drug use and sexual activity, but may neglect to inquire about sleep health even though clinical level insomnia is thought to affect a great number of people with numerous adverse impacts on health and functioning. UK data demonstrate that sleep disturbance (more so than depression, anxiety, worry) is actually the most common form of mental disorder, in men/women, of all ages and ethnic groups, and prevalence is increasing.

Sleep should be embedded in all primary health care training, and should be assessed as part of all routine assessments. The Sleep Condition Indicator (SCI) is a UK screening tool that could be used for this purpose, and can be administered quickly in either a 8 or 2-item format. For some whaiora, having difficulty sleeping is less stigmatising than having Depression or an alcohol problem, so focusing on insomnia can be the first step to recovery.

There is also concern that there may be an over-reliance on treating the disorder with sedatives and other pharmaceutical solutions. This is perhaps the greatest danger in the effort to raise awareness of the importance of sleep health, as dependence on habit-forming sedatives can worsen both sleep and mental health and increase service utilization and costs.

RSPH recommends a training agenda be developed for all health and social care staff, especially focused on non-pharmacologic therapies and ways to minimize harms if medications are used. There are online programmes in sleep medicine specifically for health professionals seeking further knowledge and expertise in the management of sleep disorders (see: <https://www.ndcn.ox.ac.uk/study/graduate-students/online-programme-in-sleep-medicine>).

Cognitive behavioural therapy (CBT) is safe and effective for persistent insomnia but under-used. It can be made available in accessible formats (e.g. small groups, booklets, digital/web/mobile therapy).

### **ATTACHMENTS**

U.S. Centers for Disease Control, *Raising Awareness of Sleep as a Health Behavior* (pdf)

Royal Society for Public Health, *Waking up to the Health Benefits of Sleep* (pdf)

Massey Sleep-Wake Centre, Summary of research (pdf)

### **CONCLUSION**

I encourage members of the Inquiry to consider this proposal for a national sleep initiative as a prime opportunity to save lives, to reduce suffering and interpersonal conflict, to improve mental and physical health, to boost learning and productivity, and to cut the unnecessary health costs for NZ businesses and government agencies.

Improving sleep health comes from the perspective of preventing mental health and addiction challenges and promoting mental well-being, and it also addresses mental health challenges across the full spectrum from mental distress to enduring psychiatric illness, as well as those facing challenges

from addictions, intellectual disabilities and physical health problems. In other words, supporting sleep health also supports the breadth and depth of prevention, resilience, treatment and recovery. Furthermore, this proposal recognizes that there are significant disparities in sleep health for Māori, and that sleep has a critical role in the prevention of suicide.

The proposed sleep health initiative includes both short and long-term solutions that are actionable at the national, local and individual levels, and the broader health and disability sector (in community, primary and secondary care), as well as other sectors, including: education, social welfare, corrections, workplace relations and safety systems. The proposal also has potential to reduce the rate of accidents, injuries, aggression, interpersonal conflict, and physical illness such as diabetes, cardiovascular disease and cancer. By reducing demands on mental and physical health and social services, this proposal could improve service access and reduce the severity of resource and workforce shortages. Undoubtedly, it will also provide opportunities for leadership in sleep research and global health policy.

At its widest scope, beyond traditional health and welfare initiatives and beyond sleep research, improving the sleep and brain health of our people is likely to have synergistic benefits in helping Kiwis to better think through and work together on solving the many other challenges we face. In this way, better sleep can help lead the way in transforming our nation into one that is healthier, safer, smarter, more compassionate, more creative, more resilient and more sustainable.

Thank you for your dedicated efforts to improve mental health in New Zealand. Please do not hesitate to contact me if you have any questions.

Sincerely yours,

A handwritten signature in black ink that reads "D. Douglas Smith". The signature is written in a cursive, flowing style.

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