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GUIDANCE

Covid-19 public health road map: Sleep hygiene

AIM OF THIS DOCUMENT

This roadmap aims to support health officials to consider changes to sleep that may have occurred during the Covid-19 pandemic and to use psychologically-informed behaviour change approaches to optimise health improvement and mitigate a negative change in level and quality of sleep. This guidance should be used alongside the [Achieving Behaviour Change \(ABC\) guide](#)¹ for local government and partners, and the [Improving People's Health behavioural and social science strategy](#)².

BEHAVIOURAL SCIENCE RECOMMENDATIONS

Good sleep hygiene (i.e. behaviours that ensure sufficient and high quality sleep) can benefit both physical and psychological health. Sleep hygiene comprises many behaviours (e.g. creation of a cool, dark and quiet sleeping environment, regular daytime exercise, eating behaviour, substance use and screen use). These behaviours can be influenced by what we know and what we can do (capability); people around us and our physical environment (opportunity); and our beliefs, what we want, how we see ourselves, how we regulate our emotions, and our habit (motivation). To support changes since Covid-19:

Consider whether any disruption to daily routines, finances, access to usual places to sleep, and/or social support (e.g. that may have arisen from working from home, school closures, changes to commuting, sports and leisure facility closures and/or restrictions) may have influenced sleep hygiene behaviour.

Promote understanding of the value of sleep hygiene for optimal sleep and the benefit of physical and psychological health including the use of a sleep hygiene plan (e.g. bedtime, wake time, sleep environment).

Encourage the use of good sleep hygiene behaviours (e.g. regular daytime exercise, not going to bed hungry, thirsty, or over full, limiting screen use and intake of caffeine, nicotine and alcohol before bed).

Discourage compensation for sleep loss, such as napping, stimulant use, sleeping in, going to bed early, and use of devices.

Encourage and promote help seeking when sleep is chronically disrupted or disordered.

Develop and implement four-nation sleep guidance to support general physical and psychological health.

We recommend following the [British Psychological Society's Behavioural Science and Disease Prevention: Psychological guidance](#)³ to shape any policy and/or communications strategy.

TARGET BEHAVIOUR: SLEEP HYGIENE BEHAVIOURS

Sleep hygiene behaviours either increase or decrease the ability and/or opportunity for sufficient quality sleep (e.g. creation of a cool, dark and quiet bedroom, regular daytime exercise, not going to bed hungry, thirsty or over full, reductions in caffeine, screen use, nicotine and alcohol before bed)⁴. They contribute to sleep health, a continuum from disordered sleep to optimal sleep, defined by satisfaction with sleep, daytime alertness, optimal timing, sleep efficiency and duration (as per age appropriate [National Sleep Foundation Guidelines](#)^{5,6}).

WHY IS SLEEP HYGIENE IMPORTANT?

Sleep is a period of rest for the body to replenish the bodies' resources and repair itself. It works through hormone regulation in the endocrine system related to a series of biological functions (e.g. eating behaviour, fertility, cardio-metabolic health, growth and repair and glucose tolerance)⁷. The immune system is tied to sleep through response to threat, recovery from illness, and elimination of toxins involved in neurodegeneration. Sleep deprivation and disturbance in the short-term is related to poorer mood and reductions in performance (both physical and psychological). In the longer term, poor sleep is related to a variety of physical and psychological conditions (e.g. obesity, depression, and diabetes). Therefore, getting the right amount of quality sleep is fundamental to health, wellbeing, and functioning.

However, four in ten people report not meeting the guidelines on sleep quantity and five in ten report poor sleep quality, representing the second most common health complaint after pain. One in ten use prescribed drugs to help them sleep with over 10 million prescriptions written every year in England for sleeping pills⁷. Poor sleep also confers a significant economic burden with the estimated cost to the UK economy at £40 billion per annum⁸.

POSSIBLE CHANGES TO SLEEP HYGIENE SINCE COVID-19

Covid-19 has created unique circumstances, which has the potential to impact significantly on sleep hygiene. There are increases in stress and worry related to the disease itself and associated concerns about finance, work, and family/loved ones. Emerging data suggest significant increases in the prevalence of poor sleep^{9,10}. A survey¹¹ of 2291 adults in Italy found that 57.1% met the criteria for a clinically relevant sleep disturbance during the pandemic. This mainly translated into difficulties falling asleep and daytime dysfunction related to poor sleep. The main predictors of poor sleep were being younger, female, uncertainty about infection, and contact fear.

Covid-19-related changes such as self-isolation may have increased sedentary behaviour, alcohol consumption, poor dietary behaviour, and screen time all of which have the potential to disrupt sleep directly. Indirectly, changes in these behaviours can impact on both the biological drive to sleep (e.g. by napping, having a lie in) and the human body clock (e.g. erratic sleep schedules) making sleep more easily disrupted. The situation has created additional risk to sleep for vulnerable populations (e.g. those with long-term conditions) and those 'at risk' for sleep problems (e.g. shift-workers). Recovery from Covid-19 or caring for a family member with Covid-19 may be associated with a higher risk of chronic fatigue and impacted sleep hygiene.

WIDE-SCALE PUBLIC HEALTH INTERVENTION

Health officials have the opportunity to support national behaviour change through a number of policy levers. Table 1 highlights existing approaches and suggestions for future development. Using this document, alongside the [ABC guide](#)¹ and support from experts in behaviour change, such as health psychologists, can help to optimise reach and impact of public health efforts.

Table 1: Policy categories from the Behaviour Change Wheel^{1,12,13} that could support good sleep hygiene during the COVID-19 pandemic and beyond.

Policy categories	Definition	Examples and suggestions
Communication/ marketing	Using print, electronic, telephonic or broadcast media.	Communicating clear guidance on sleep hygiene (to include age appropriate quality, quantity and timing) and the sleep hygiene behaviours that promote this. Communicate the importance of good sleep to improve risks in relation to physical and mental health, behavioural risks (e.g. traffic accidents, or falls), and performance (e.g. impaired concentration, memory, or ability to make decisions) ^{7,14}
Guidelines	Creating documents that recommend or mandate practice. This includes all changes to service provision.	Create clear guidance from each of the four nations' public health teams to support the development and maintenance of good sleep hygiene through the life-course for optimal sleep outcomes. This should include guidelines on non-pharmacological and pharmacological interventions to promote good sleep hygiene behaviour. ^{7,14}
Fiscal	Using the tax system to reduce or increase the financial cost.	Reduce tax on evidence-based sleep aids for sleep hygiene (e.g. blackout blinds, noise cancelling devices).
Regulation	Establishing rules or principles of behaviour or practice.	Requiring organisations to have policies that enable good sleep hygiene behaviours (e.g. places to sleep for those working away from home/ restrictions on extensive working hours) which recognises health inequalities.
Legislation	Making or changing laws.	Retain and potentially increase penalties for 'sleepy' or tired driving.
Environmental/ Social planning	Designing and/or controlling the physical or social environment.	Planning light and noise adaptable spaces to promote optimal sleep hygiene (e.g. at home, and in hospitals, care homes, prisons, hotels, hostels and/or other housing).
Service provision	Delivering a service.	Increase availability of support services (e.g. cognitive behavioural therapy) at all levels (primary care, secondary care) to include those with sleep disorders. Make advice available online, and potentially consider apps and online resources to provide support to individuals aiming to improve their sleep hygiene (which also links to other healthcare resources affected by sleep such as alcohol, smoking, mental health, or long-term health conditions) ¹⁴ .

UNDERSTANDING INFLUENCES ON BEHAVIOUR USING A COM-B DIAGNOSIS

To help in understanding behaviour and behaviour change, the COM-B model suggests that there must be considerations made for the target population in relation to their:

Capability to enact the Behaviour, that relies on both psychological (e.g. knowledge and skill) and physical (e.g. ability and strength) capability factors;

Opportunity to enable the Behaviour, that considers both social (e.g. norms, support) and physical (e.g. resources, environment) opportunity facilitators; and

Motivation to perform the Behaviour, that involves both reflective (e.g. attitudes, confidence, intentions, identity) and automatic (e.g. emotion, habit) motivational processes.

The likely influences to consider when developing policies, campaigns or messaging to support sleep hygiene based on a COM-B behavioural diagnosis are presented in Table 2.

DIFFERENT AUDIENCES TO CONSIDER

WHO NEEDS THIS INFORMATION

World Health Organization, International partners and public health teams, Public Health England, Public Health Scotland, Public Health Wales, Public Health Agency Northern Ireland, local authorities, general practitioners, counsellors, psychologists, and psychiatrists, Improving Access to Psychological Therapy (IAPT) practitioners, child and adolescent mental health services (CAMHS), and NHS Sleep Services, voluntary and community sector staff, and human resources staff and employers, particularly those who have staff working shifts.

WHO WILL BE INFLUENCED MOST BY COVID-19

There is a need for researchers and policy makers to address how these barriers and facilitators differ based on occupation, role and employment status, gender/sex, socio-economic group, ethnic group, experience of physical and/or learning disabilities, age group, differing levels of risk for Covid-19 and those in Covid-19 recovery or who are shielding and their carers/families. Health care professionals, key workers and shift workers, young adults, older adults, those with childcare responsibilities who may or may not be home working, those with existing mental health issues or who have been bereaved.

USING A BEHAVIOURAL SCIENCE APPROACH

This document provides considerations for the initial stages of intervention development using the Behaviour Change Wheel^{12,13} approach described in the [ABC guide](#)¹ to support behaviour change. For further support on the full development and evaluation of interventions and the translation of this into practice using the whole system approach, you can contact the [BPS Division of Health Psychology](#) (with the subject title Covid-19). We would also encourage you to contact your local university or one with expertise in behaviour change, and/or [find a psychologist](#) via the Society's website.

Table 2: COM-B behavioural diagnosis of the likely influences on sleep hygiene behaviours.

Capability psychological/physical	Opportunity social/physical	Motivation reflective/automatic
Knowledge of the factors which contribute to good sleep hygiene. (Psychological)	Social support for engaging in sleep hygiene behaviours from family, friends, or workplace. (Social)	Belief that engaging in good sleep hygiene behaviours will be beneficial to optimal sleep, health and wellbeing. (Reflective)
Having the cognitive (e.g. headspace) and interpersonal (e.g. ability to negotiate bedtime) skills to engage in good sleep hygiene behaviours. (Psychological)	Encouragement from friends and family to engage in good sleep hygiene behaviours. (Social)	Having the confidence to engage in good sleep hygiene behaviours including when routine changes. (Reflective)
Remembering to engage in good sleep hygiene when routines (e.g. commute, lunch break, school run) have changed). (Psychological)	Overcoming the influence of others who may have unhelpful sleep hygiene behaviours (e.g. household members) influencing ability to engage in good sleep hygiene behaviours. (Social)	Having strong intentions to engage in good sleep hygiene behaviours. (Reflective)
Knowledge of where to get support in relation to good sleep hygiene. (Psychological)	Influence of societal and cultural norms around sleep hygiene including embedded cultural/lay perceptions of sleep (e.g. in context of illness and age). (Social)	Having the goal of engaging in good sleep hygiene behaviours. (Reflective)
Ability to plan to engage in good sleep hygiene behaviours. (Psychological)	Environmental changes to support individuals to engage in good sleep hygiene behaviours (e.g. places to be physically active). (Physical)	Holding the identity of someone who can engage in good sleep hygiene behaviours (e.g. being sleep stable vs vulnerable to poor sleep/insomnia). (Reflective)
Skill to perform sleep hygiene behaviours (e.g. regular daytime physical activity, healthful eating, limiting caffeine, alcohol, or screen use) to benefit sleep. (Physical)	Occupational health restrictions on engaging in good sleep hygiene (e.g. shift working, childcare, being 'on call'). (Physical)	Overcoming and regulating emotions and mood which impact on the ability to engage in good sleep hygiene behaviours. (Automatic)
Physical health restrictions on good sleep hygiene including disability, fatigue or pain from existing health conditions. (Physical)	Lack of access/financial resources for basic sleep hygiene equipment (e.g. bed, mattress, blinds/curtains, and space). (Physical)	Overcoming poor sleep hygiene habits to engage in good sleep hygiene behaviours. (Automatic)

RESOURCES

- NHS and Healthcare Sources
 - [How to get to sleep](#)
 - [Sleep and health](#)
 - [Trouble sleeping?](#)
- US National Sleep Foundation
 - [The National Sleep Foundation has been the leading expert voice in the world of sleep science and health for nearly thirty years.](#)
- BHF sleep
 - [How does sleep affect your heart?](#)
- Asthma UK sleep
 - [Sleep and asthma](#)
- Versus Arthritis sleep
 - [Why is sleep important?](#)
- Mind
 - [How to cope with sleep problems](#)
- US National Sleep Foundation Covid-19 advice
 - [Sleep guidelines during the Covid-19 pandemic](#)

CONTRIBUTORS

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