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World Sleep Society recommendations on wearable sleep trackers aim to empower consumers and clinicians, and foster industry partnership

Singapore, 25 April 2025 — Millions worldwide who turn to wearable devices for sleep insights are set to benefit from recommendations on the use of wearable consumer health trackers (CHTs) for sleep measurement released by the World Sleep Society. Uniquely, the international team of sleep experts from the US, Australia, Europe and Singapore, took into consideration industry input, critique from clinicians and previous position papers. The emergent recommendations provide clear and practical points for consumers, clinicians, researchers, and manufacturers, to tap the potential of wearable CHTs in an evidence-guided manner.

Once primarily used for fitness tracking, CHTs are now used by many as a means to monitor sleep timing, regularity, and duration. Used regularly, CHTs serve as a "sleep minder," offering a continuous diary of sleep habits, providing insights into sleep patterns over extended periods on a scale previously not possible. By doing so they can assist in the maintenance or improvement of mood, heart health, brain function, and immunity for millions. However, the accuracy of different devices can vary significantly, depending on the quality and/or configuration of their sensors, and the algorithms used to interpret the data. The measures used are also not standardised. The reasons behind clinician's concerns are revealed and some solutions are proposed.

"If manufacturers align to common principles and standards for sleep measurement, consumer health trackers could significantly enhance their value as tools for improving health and wellbeing. We emphasised the benefits of co-operation between clinicians and industry and provided actionable suggestions for this," said Professor Michael Chee, Director of the Centre for Sleep and Cognition at NUS Yong Loo Lin School of Medicine (NUS Medicine), the lead author of the work.

Key takeaways for consumers would be to purchase a device that suits their use case, focus on fundamental sleep measures (among a growing array of these)—such as sleep timing and regularity which can be directly acted on—rather than obsessing over nightly measurements of specific stages like Deep or Rapid Eye Movement (REM) sleep which are not. Users are encouraged to reflect on their pre-sleep routines and experiment with changes, with regular tracking enabling them to discover which habits lead to better fundamental sleep measures. Over time, and in recognition of inter-individual differences in sleep need, a person could learn how to customise their sleep beyond what general guidelines suggest.

Beyond individual benefits, wearable sleep trackers will redefine what “normal” sleep looks like. By collecting data over long periods and across diverse communities, these devices reveal how factors like culture, work schedules, and even nighttime light or noise affect sleep. Advances in big data analysis and artificial intelligence will further enable the personalisation sleep recommendations, moving beyond one-size-fits-all advice.

The document touched on existing and promising clinical applications but also cautioned that CHTs are not primarily designed for clinical diagnosis and care. This will change but to develop properly, stronger partnership between clinicians and industry is needed.

“With the right focus, and approach wearables can help people make meaningful choices for better sleep and better health. These recommendations are an important step in that direction,” said Professor Chee.

Published in Sleep Medicine, the recommendations will be discussed at the 18th World Sleep Congress in Singapore, September 5–10, 2025.

For media enquiries, please contact:

Shaun Yee
Communications
Yong Loo Lin School of Medicine
National University of Singapore
DID: +65 9012 1928
Email: medv3719@nus.edu.sg

Xuan LEE
Manager, Communications
Yong Loo Lin School of Medicine
National University of Singapore
DID: +65 8288 1237
Email: lxuan@nus.edu.sg

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