

Written Testimony

Sleep and Climate change

Wednesday, January 27, 2021 , 10:30 AM

Preventive Health Policy Division

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Sleep is a limited resource, needed for life, to resist to disease and cancer, to maintain ingenuity, positive and peaceful life outlooks

-CNBC (2020) Dr. Fauci: 3 everyday things you can do to help boost your immune system <https://www.cNBC.com/2020/09/18/dr-fauci-how-to-help-keep-your-immune-system-healthy.html>

-Circadian Rhythm and Sleep Disruption: Causes, Metabolic Consequences, and Countermeasures <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5142605/>

- Reasonable grounds to use Sleep to fight covid19. 2020 Larenas-Linnemann Enhancing innate immunity against virus in times of COVID-19: <https://pubmed.ncbi.nlm.nih.gov/33072240/> **See summary Page 17!**

-Stoyan Dimitrov, Tanja Lange, Cécile Gouttefangeas, Anja T.R. Jensen, Michael Szczepanski, Jannik Lehnholz, Surjo Soekadar, Hans-Georg Rammensee, Jan Born and Luciana Besedovsky: "Gas-coupled receptor signaling and sleep regulate integrin activation of human antigen-specific T cells." Journal of Experimental Medicine <https://uni-tuebingen.de/en/university/news-and-publications/newsfullview-news/article/how-sleep-strengthens-the-immune-system>

Besedovsky summarizes: "Just three hours without sleep are sufficient to reduce the function of important immune cells. Our results show a potential fundamental mechanism by which sleep helps us fight infection."

-Prather AA (2015) , Janicki-Deverts D, Hall MH, Cohen S: Behaviorally assessed sleep and susceptibility to the common cold. Sleep. 2015, 38:1353–1359 <https://pubmed.ncbi.nlm.nih.gov/26118561/>.

-Berk M, Dodd S, Hallam K, Berk L, Gleeson J, Henry M. (2008) "Small shifts in diurnal rhythms are associated with an increase in suicide: The effect of daylight saving". Sleep Biol Rhythms. 2008;6(1):22–25. <https://doi.org/10.1111/j.1479-8425.2007.00331.x>

-Osea Giuntella, Fabrizio Mazzonna; Sunset Time and the Economic Effects of "Social Jetlag" Evidence from US Time Zone Borders; Journal of Health Economics (May 2019), ISSN: 1879-1646, Vol: 65, Pages: 210-226; <https://doi.org/10.1016/j.jhealeco.2019.03.007> Summarized here https://www.heure-ete.net/CP_20190520_EN.pdf

AASM (2020), "American Academy of Sleep Medicine calls for Elimination of Daylight Saving Time". Press release and position statement, <https://aasm.org/american-academy-of-sleep-medicine-calls-for-elimination-of-daylight-saving-time/>

There is a sleep deprivation crisis and climate change has potential to make it worse

-CDC [.https://www.cdc.gov/sleep/index.html](https://www.cdc.gov/sleep/index.html)

-Climate change and sleep: A systematic review of the literature and conceptual framework” We present a conceptual framework for identifying the emerging threats of climate change and understanding their respective effects on human sleep.”
<https://www.sciencedirect.com/science/article/pii/S1087079218300765>

-loss of property, loss of care , homelessness “Sleep deprivation in an American homeless population
<https://doi.org/10.1016/j.sleh.2020.01.002>

-Stress from uncertainty, violence, demanding situation, disease The bidirectional relationships between effort-reward imbalance and sleep problems among older workers <https://www.sciencedirect.com/science/article/abs/pii/S2352721820300401>

-Sleep is sometimes also a refuge or a symptom
<https://www.theatlantic.com/health/archive/2013/12/why-some-people-respond-to-stress-by-falling-asleep/282422/>

-Sleep is also an ally in lockdowns, curfews, in hospitals... on weekends, on holidays too!. Better Slumber During the Pandemic May Help Protect Your Health
<https://www.nhlbi.nih.gov/news/2020/covid-and-sleep-better-slumber-during-pandemic-may-help-protect-your-health>

Sleep needs protection

- In general & at every opportunity
- In the chapter of climate change

It can also help against climate change:

More sleep better health, less consumption, less carbon emissions

Let's preserve sleep **as much as possible**:

- Awareness, education
- Research
- Policies
 - Health care, housing, rights, [caucus](#)
 - stop time changes and adopt a permanent natural standard time ([#notimechangeinMarch](#))
 - Improved infrastructure , transportation, schedules
 - for students
 - for workers
 - for nursing homes
 - For hospitals, disabled, in need, etc..

As soon as possible to help in times of COVID19 and vs climate change

Agenda

Wednesday, January 27, 2021 , 10:30 AM

Preventive Health Policy Division

Chair: Rep. Mike Freiberg

Location: Remote Hearing

Agenda:

This remote meeting will be held in accordance with House Rule 10.01 which can be found here: <https://www.house.leg.state.mn.us/cco/rules/permrule/permrule.asp>

Informational Hearing on the Impact of Climate Change on Public Health
No formal action will be taken

Members of the Climate and Energy Finance and Policy Committee are invited to this hearing.

Public Viewing Information:

This remote hearing will be live-streamed via the House webcast schedule page: <https://www.house.leg.state.mn.us/htv/schedule.asp>.

NOTE: Channels HTV 1 and HTV 2 will provide live closed captioning. Video archives of meetings streamed on HTV 3, 4, and 5 will have closed captions added. Other reasonable accessibility accommodations may be made with advance notice. If you have questions about the accessibility of remote hearings or require an accommodation, please contact Jenny Nash at: jenny.nash@house.mn or by leaving a message at 651-296-4122.