UK Health Security Agency

Report to WHO International Advisory Committee, June 2024

UKHSA published the 4th report on the Health Effects of Climate Change (HECC) in the UK: State of the Evidence 2023[1]. It provides an authoritative summary of the scientific evidence on the health effects of climate change, potential implications for public health, and gaps in evidence. The report is primarily a scientific and technical document that collates up-to-date knowledge to inform policy and action in the UK. The report also acts as a resource for public health and other professional bodies and groups, government departments and authorities, science-facing civil society organisations, and interested stakeholders and partners with a role in securing health from the effects of climate change.

There were no new UK policies or legislations relevant to optical radiation.

The House of Lords' Science and Technology Select Committee published a report on the inquiry into the effects of artificial light and noise on human health[2] and held the Grand Lords Committee debate on this report[3].

The initial findings from the scoping review on Measuring the Visual Environment of Children and Young People at Risk of Myopia, results from the study on Light Hygiene and Melanopic Daylight Efficacy Ratios and Energy Efficiency and a Simulation-based Method to Quantify Daylight Exposure and its Effect on the Onset of Myopia in Primary School Children were presented at the CIE International Commission on Illumination Conference[4,5,6].

The results of the study on the effect of low-dose UK sunlight exposure on the induction of nitric oxide release and skin cell viability *in vitro* was published[7]. The immunomodulatory potential of far-UVC is being evaluated in a keratinocyte model. This work will be presented at the 2nd International Congress on Far-UVC Science and Technology[8].

The forecast of the UV Index, safety messages and advice on sun and health via short blog-style stories and accessible videos are communicated by the UK's national weather and climate service-the Meteorological Office (Met Office)[9]. UV Index data for 11 UK locations are provided by the UK Health Security Agency and University of Manchester and displayed in near-real time to the public with an indication when sun protection is needed[10]. The UV Index and sun safety messages are also available on SmartSun UV Global App[11] for the UK and many popular holiday destinations. Outreach activities included presentations and interactive activities about the importance of UV protection and light exposure for health.

UKHSA participated in the Ladenburg Roundtable on Light for Health and Well-being and co-signed "Call for a coordinated international communications effort on the effects of ocular light exposure on health and well-being: White paper from the Ladenburg Roundtable"[12].

References

[1]UKHSA Health Effects of Climate Change (HECC) in the UK: State of the evidence 2023 report. Available at: Health Effects of Climate Change in the UK: state of the evidence 2023 (publishing.service.gov.uk)

[2]Science and Technology Committee Report on the neglected pollutants: the effects of artificial light and noise on human health. Available at: The effects of artificial light and noise on human health - Committees - UK Parliament

[3]UK Grand Lords Committee debate on Science and Technology Committee report on the neglected pollutants: the effects of artificial light and noise on human health. Available at: Parliamentlive.tv - Lords Grand Committee

[4]Conference Proceedings by International Commission on Illumination. Available at https://store.accuristech.com/cie/standards/cie-x050-po091?gate_code=cie&product_id=2579135

[5]Conference Proceedings by International Commission on Illumination. Available at https://store.accuristech.com/cie/standards/cie-x050-op017?gateway_code=cie&product_id=2578610

[6]Conference Proceedings by International Commission on Illumination. Available at https://store.accuristech.com/cie/standards/cie-x050-po006?gateway_code=cie&product_id=2579044

[7]Hazell, Gareth, Marina Khazova, and Paul O'Mahoney. "Low-dose daylight exposure induces nitric oxide release and maintains cell viability in vitro." *Scientific Reports* 13, no. 1 (2023): 16306.

[8]2nd International Congress on Far-UVC Science and Technology. Available at https://events.st-andrews.ac.uk/events/icfust-2024/

[9]Met Office: UV and Sun. Available on: https://www.metoffice.gov.uk/weather/warnings-and-advice/seasonal-advice/health-wellbeing/uv/uv-and-sun-health

[10]Health Security Agency and University of Manchester solar monitoring UV Index. Available on: https://uk-air.defra.gov.uk/data/uv-index-graphs

[11]SmartSun UV Global App. Available on: https://www.who.int/news/item/21-06-2022-sunsmart-global-uv-app-helps-protect-you-from-the-dangers-of-the-sun-and-promotes-public-health

[12]Call for a coordinated international communications effort on the effects of ocular light exposure on health and well-being: White paper from the Ladenburg Roundtable. Available at https://osf.io/n6f7r.