

SCIENTISTS CALL FOR REGULATIONS ON LOW INDOOR HUMIDITY

Thursday 29 April, 2021

A group of 17 internationally recognised scientists has called upon the UK Government to implement a minimum lower limit of indoor humidity in public buildings to protect against respiratory infection and mitigate the risk of future pandemics.

The scientists submitted an open letter in response to a consultation invited by the Ministry of Housing, Communities & Local Government, on a recently proposed update to indoor ventilation regulations.

Many of the scientists supporting the letter have directly studied and written papers on the impact of indoor humidity on aerosol transmission and respiratory infections. **Their letter states that UK public buildings should be maintaining indoor humidity at above 40% relative humidity (%RH),** because below this level:

1. Our respiratory immune system is impaired, leaving us more susceptible to infections.
2. Exhaled aerosols, containing infectious viruses, remain airborne for longer, increasing the risk of subsequent cross-infection.
3. Many viruses survive for longer and remain infectious in dry air.

Dr Stephanie Taylor, a Harvard Medical School infection control consultant and the lead author of the letter, said:

"Indoor humidity in the UK can drop below 40%RH during the winter, as heating systems dry the air. Many studies have shown that dry indoor air is a significant contributing factor to the rise of seasonal respiratory illness. It is very possible for buildings to maintain a healthy level of indoor humidity by using humidifiers, and many building operators do so during the winter for this reason. However, without mandatory building regulations, it is left to the discretion of the building operator whether they invest in this type of indoor air quality management for the protection of occupants."

"Through the updating of the UK's building ventilation codes, entitled The Future Buildings Standard, the UK government has an opportunity to implement the necessary measures to mandate a healthy indoor humidity year-round. The scientific evidence has shown that this would reduce the seasonality of respiratory infections. However, in the Government's draft proposals there is no mention of needing to maintain a minimum lower limit of indoor humidity for health or any recognition of the abundance of scientific knowledge on the topic. This is why this collaboration of scientists, who are hugely informed on the topic, have felt compelled to respond to the Government's consultation."

The letter can be viewed at

<https://www.taylorcx.com/images/letter-humidity-future-buildings-standard.pdf>

Among the scientists supporting this call on the UK Government are professors of immunobiology, neuropathology, surgery, architecture, environmental and mechanical engineering, from the UK, USA, Switzerland, Denmark, Japan, Croatia, Tunisia and Italy.

As well as an infection control consultant, Dr Taylor is also a member of the ASHRAE Epidemic Task Force, established to provide guidance on how to ensure buildings are prepared for future pandemics, a medical advisor to The British Standards Institution, Chartered Member of the Royal Society of Public Health and a Chartered Member of the Chartered Association of Building Engineers.

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Harvard Medical School Infection Control Consultant. Member of the ASHRAE Epidemic Task Force. Medical advisor to The British Standards Institution. Chartered Member of the Royal Society of Public Health. Chartered Member of the Chartered Association of Building Engineers. Co-author of "Is low indoor humidity a driver for healthcare-associated infections?"

Derek Clements-Croome, PhD. (supporting signatory of the letter)

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Building Regulations :: Ventilation
:: Future Buildings Standard ::
Humidity :: Stephanie Taylor ::
Health :: Respiratory Infection ::
Scientists :: Open Letter ::

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Professor Emeritus at University of Reading, School of the Built Environment, and Visiting Professor at Queen Mary University London. Chair of Chartered Institution of Building Services Engineers' (CIBSE) Intelligent Buildings Group. Works with the British Council of Offices (BCO) with regards health and wellbeing in buildings and contributed to the BCO Wellness Matters report (2018). An author on the 2009 WHO report, Natural Ventilation for Infection Control in Health-Care Settings. Derek has edited and written chapters in the 3rd Edition of Creating the Productive Workplace (2018). His recent book Designing Buildings for People: Sustainable Liveable Architecture (2020), includes his work on the Flourish Model for assessing the impact of the environment on people's health and wellbeing.

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