

INDOOR AIR POLLUTION

The facts about deteriorating indoor air quality (IAQ)

WHAT IS IT?

Poor indoor air quality, or indoor air pollution, occurs when there is a build up of pollutants in the home to the extent that it affects an occupant's health and comfort.

WHY IT MATTERS

UK citizens spend 90% of their time indoors¹ and around 16 hours a day in their homes². Indoor air can be up to 50 times more polluted than outdoor air¹ and contain up to 900 potentially dangerous chemicals, particles and biological materials³.

THE HUMAN COST

Poor indoor air quality has a reported annual cost to the UK of over 204,000 healthy life years⁴, with 45% of those lost to cardiovascular diseases, 23% lost to asthma and allergy, and 15% to lung cancer.

The World Health Organisation (WHO) has stated that poor indoor air quality is responsible for around 99,000 European deaths a year⁵ and the Royal College of Physicians has warned that:

“Indoor air pollutants cause, at a minimum, thousands of deaths per year and are associated with healthcare costs in the order of tens of millions of pounds”⁶.

INCREASING IMPORTANCE

Concern over deteriorating indoor air quality is increasing as homes are becoming more air tight, allowing pollutants to accumulate. Experts have warned that the drive to improve energy efficiency is not being met with an equal concern over indoor air quality and as such, human health is at risk.

Professor Hazim B. Awbi from the University of Reading recently predicted that by 2050, without intervention to tackle indoor air pollution, based on current trends, there will be an 80% increase in those suffering asthma symptoms and Volatile Organic Compounds (VOCs) concentrations could rise 60% above WHO 24 hour limit levels⁷.

WHAT ARE THE SYMPTOMS?

Common symptoms of poor indoor air quality include coughing, sneezing, watery eyes, fatigue, dizziness, headaches, wheezing, allergic reactions and reduced cognitive function. Long term exposure to poor indoor air quality has been linked to serious health conditions including allergic and asthma symptoms, lung cancer, chronic obstructive pulmonary disease, airborne respiratory infections and cardiovascular disease.

MY HEALTH  MY HOME



TACKLING POOR IAQ

Indoor air quality can be managed and kept at a healthy level by reducing the number of pollutants in the home. This is achievable through behavioural changes and by using ventilation to stop pollutants being able to accumulate.

What inhabitants can do:

- Ensure the home is properly ventilated; that ventilation is installed, well maintained and switched on
- Reduce the use of scented products and where possible switch to non-spray and eco-friendly household and beauty products
- Reduce levels of moisture by, for example, drying clothes outside, ensuring extraction fans are switched on in the bathroom and kitchen, covering pans when cooking and shutting the bathroom door when showering

What policy makers can do:

- Improve education about the potential impacts of indoor air pollution and how inhabitants can reduce their own risk
- Ensure that indoor air quality is fully considered when pursuing policy to improve the energy efficiency of homes
- Make ventilation, like gas and electric, a 'controlled service', recognising the importance of properly installed ventilation in safeguarding human health

For more information on indoor air quality or to learn about the My Health My Home campaign, please visit:

www.MyHealthMyHome.com

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WHAT ARE THE INDOOR POLLUTANTS?

- Particulate matter (PM)
- Carbon Monoxide (CO)
- Mould
- Dust mites and other biological particulates
- Nitrogen Dioxide (NO₂)
- Sulphur Dioxide (SO₂)
- Volatile Organic Compounds (VOCs)
- Formaldehyde (CH₂O)
- Radon (Rn)
- Ozone (O₃)
- Ammonia (NH₃)

WHERE DO THEY COME FROM?

- Fuel burning appliances (e.g. cookers)
- Open fires
- Household products such as air fresheners, hair sprays, cleaning products, solvents, paints and wood preservatives
- Building materials and home furnishings
- Candles and incense
- Office equipment (e.g. printers)
- People, pets and plants
- Bacteria
- Excess moisture
- Smoking

References:

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3. European Commission, Health and Consumer Protection Directorate, Scientific Committee on Health and Environmental Risks (SCHER). *Opinion on risk assessment on indoor air quality*. 2007.
4. National Institute for Health and Welfare. *Efficient reduction of indoor exposures. Health benefits from optimizing ventilation, filtration and indoor source controls*. 2013.
5. World Health Organisation (WHO). *Burden of disease from household air pollution for 2012-2014*.
6. Royal College of Physicians. *Every breath we take: the lifelong impact of air pollution*. Report of a working party. 2016.
7. Awbi, Hazim B. *The Future of Indoor Air Quality in UK Homes and its Impact on Health*. BEAMA. 2015. Available at: www.myhealthmyhome.com [accessed 01.05.2016].

MY HEALTH  MY HOME

