UKHSA towards IAQ solutions

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Exposure to indoor air pollution across socio-economic groups in high-income countries: A review of the literature and a modelling methodology

Ferguson L, Taylor J, Davies M, Shrubsole C, Phil Symonds, Dimitroulopoulou S (2020)

- Households of low socio-economic status experienced higher levels of indoor PM, NO₂, VOCs and ETS
- Higher radon concentrations were found in homes with a greater material wealth
- Inequalities in exposures may arise via:
  - Poor quality housing
  - A lack of education regarding the harm of indoor second-hand smoke
  - Location near congested roads
  - Higher occupant density resulting in greater re-suspension of particles
  - Radon in homes is principally explained by geological variables
- A holistic approach to improve indoor air quality (IAQ) is required by transforming existing cities through sustainable building design, clean household fuels and reduced dependency on cars

10.1016/j.envint.2020.105748 (doi.org)
• Early FUVN activity
• Mapped
  • Health determinants
  • Inter-relationships
• Framed
  • Discussions
  • Ventilation survey
  • Webinar topics

• Health inequalities…
  • …based on exposure
  • …based on vulnerability
Deprivation affects personal exposure to air pollution:
- More time is spent indoors
- More pollution-generating activities are undertaken indoors
- Outdoor air pollution is higher in deprived areas
- Poor quality housing can increase exposures
- Underlying health issues increase adverse impacts

Systems frameworks can highlight areas of systematic inequality

Low-income households have limited opportunities to improve their indoor air quality

Potential systematic interventions include improving outdoor environments, improving housing quality and urban form, and changing the behaviour of occupants

Indoor air pollution exposure disparities are under-researched

https://doi.org/10.5334/bc.100
UKHSA collaboration: 
Sector guidance on the health impacts of damp and mould

- Awaab Ishak, Prevention of future deaths report
  - Matter of concern: lack of health information for housing sector on risks of damp and mould
  - Contrast with legionnaires and gas safety campaigns

- OHID to lead on response in partnership with UKHSA and DLUHC
  - Review of existing guidance (UKHSA)
  - Engage with interested parties
  - Publish guidance for landlords – end of July 2023

- Inequalities: housing and indoor quality, structural (defining and resolving housing-related issues)
  - Action targets housing standards and practices
Cross-sector opportunities to reduce exposures and health disparities

Standards and guidelines: the current state of play

- Addressing specific pollutants
  - Volatile Organic Compounds, low level carbon dioxide (UKHSA)
  - Open database for international and national guidelines (ISIAQ) [www.ieqguidelines.org](http://www.ieqguidelines.org)

- Addressing building characteristics
  - Building regulations: Approved Document F – Ventilation / Appendix B: Performance-based ventilation
  - A Decent Home: Definition and Guidance for Implementation

- Addressing regulation and interventions
  - Housing Health and Safety Rating System (DLUHC)
  - Portable air purification: impacts on indoor air quality and health (UKHSA)