



Public Health
England

Healthy Indoor Environments

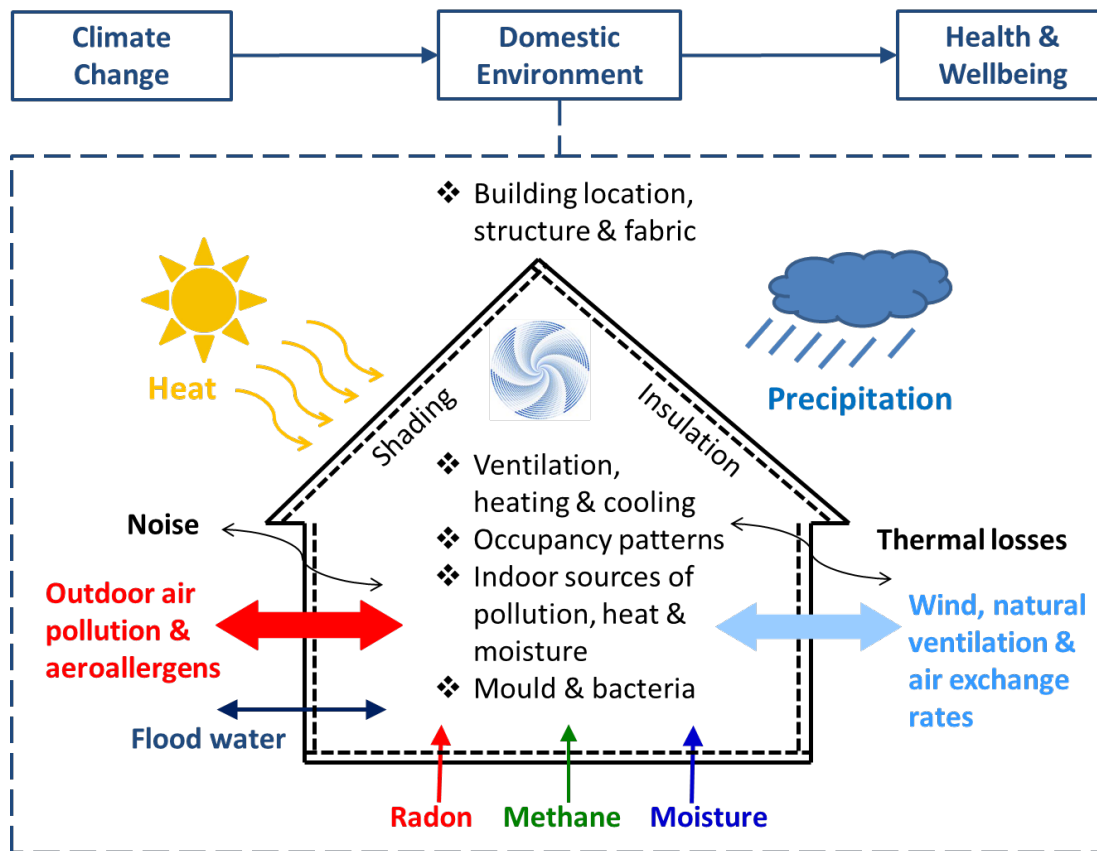
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07/07/2020 - Webinar organised by UKIEG ("Adapting our built environment for climate change: new challenges and implications from the COVID-19 crisis").



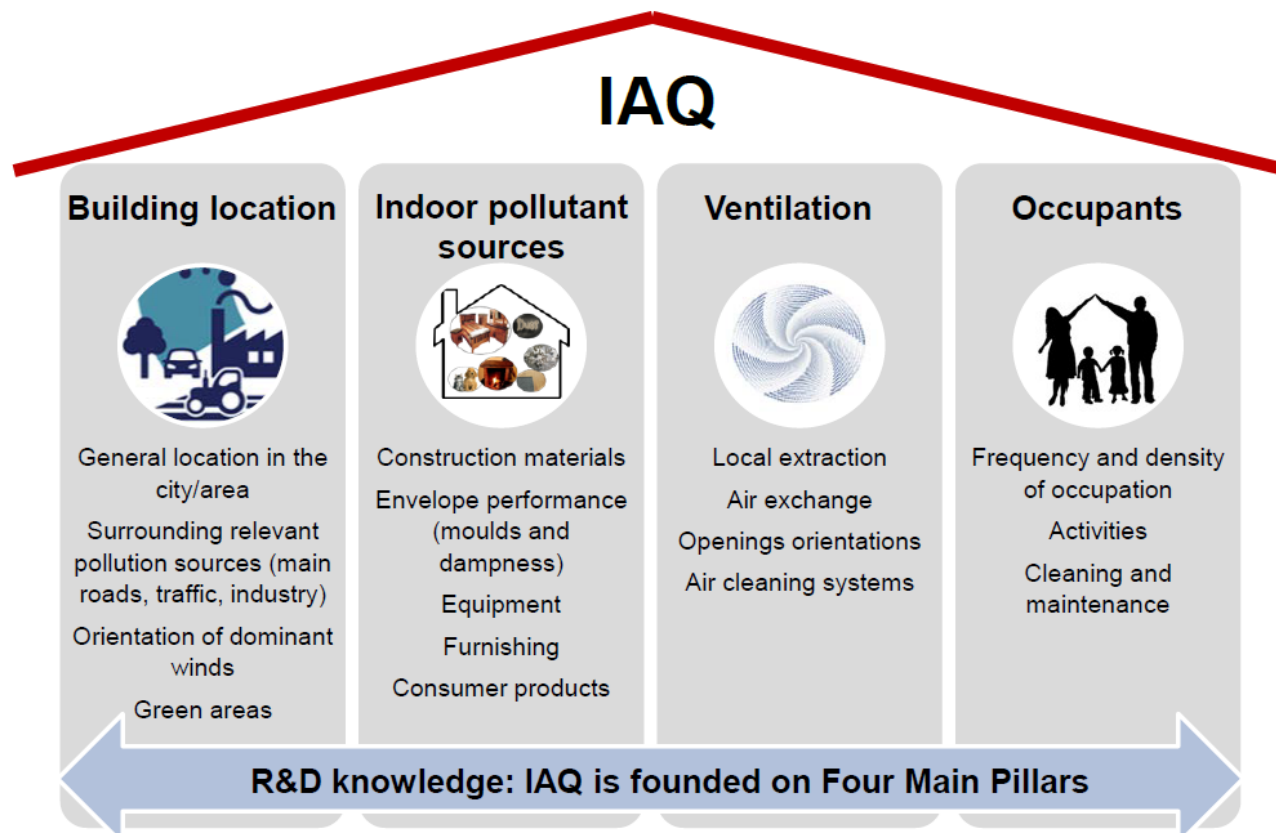
The big picture



Vardoulakis et al., 2015: Environment International, 85: 299-313



Strategy for Healthy Indoor Air



Improving indoor air quality

Actions for local authorities

Checking people's homes and giving advice

Use inspections and home visits to identify poor indoor air quality.

Staff who visit people's homes should:

- know about sources of indoor air pollutants and their effects on health
- give advice on avoiding activities that increase pollutants and improving ventilation (see below)
- know who can provide help with repairs and necessary improvements
- give advice on requesting a housing assessment if poor indoor air quality is suspected.

Advise private and social tenants to contact their landlord if:

- ventilation is inadequate
- repairs are needed to prevent water from entering the home
- improvements are needed to heating or insulation to prevent condensation.

Advise tenants to contact their local authority if no action is taken to improve ventilation or carry out repairs.

Advice on reducing damp and condensation

- Use background ventilation (trickle vents or whole-house mechanical ventilation)
- Use extractor fans and open windows (if possible and safe)
- Avoid moisture-producing activities (such as air-drying clothes) or, if unavoidable, improve ventilation
- Repair sources of water damage and remove residual moisture

Advice on increasing ventilation

Use extractor fans in bathrooms and kitchens, or open windows (if possible and safe) when:

- using cookers, especially gas cookers
- using open solid-fuel fires or free-standing gas heaters
- using candles
- using cleaning products, household sprays or aerosols and paints
- having a bath or shower
- air-drying clothes

Other advice

- Do not use unflued paraffin heaters
- Follow product instructions if using, for example, paint, glue and solvents
- Choose low-emission materials if replacing furniture or flooring
- Ensure adequate ventilation when installing a new cooker, especially for gas cookers
- Do not use gas cookers to heat a room
- Avoid smoking in the home

Actions for healthcare professionals

Advice for people with breathing or heart problems

- Explain that indoor air pollutants can trigger or exacerbate asthma, other respiratory conditions and cardiovascular conditions
- If repeated or worsening cough or wheezing, ask about housing conditions and help request a housing assessment if concerned
- If household sprays or aerosols trigger asthma, advise avoiding them or using non-spray products

Advice for people allergic to house dust mites

- Advise on how to reduce exposure to house dust mites, including:
- avoiding second-hand mattresses if possible
 - using allergen barriers such as mattress and pillow covers
 - washing bedding regularly

Advice for pregnant women and babies under 12 months

- Advise on the increased risks from poor indoor air quality
- Explain the risks of tobacco smoke
- Ask about housing conditions and help request a housing assessment if concerned
- Advise on reducing use of household sprays and aerosols
- Advise on avoiding or reducing use of open solid-fuel fires or candles
- Advise on avoiding smoking in the home or around the woman and baby

Actions for architects, designers, builders and developers

These recommendations apply both to building new homes and renovating or refurbishing existing homes.

Building materials and products

- Architects and designers should consider specifying materials and products that emit low levels of formaldehyde and volatile organic compounds (VOCs)
- Builders and developers should use materials as specified or substitute with products of the same or lower emission levels
- Builders and developers should ensure materials and products comply with building regulations, design specifications and the manufacturer's guidance

Designing heating and ventilation systems

- Adopt a whole-building approach to heating and ventilation, balancing indoor air quality with standards for energy use
- Use heating systems that minimise exposure to particulate matter
- Ensure there is permanent, effective ventilation
- Include provision for removing indoor air pollutants in designs, for example, windows that open and extractor fans that extract to outside
- Design ventilation to reduce exposure to outdoor air pollution, for example, with windows that face away from busy roads

Installing heating and ventilation systems

- Ensure heating and ventilation is installed and commissioned in accordance with the manufacturer's instructions and meets building regulation requirements
- When installing heating and ventilation systems, ensure they are easily accessible for regular maintenance
- Ensure any variations to the heating and ventilation specification comply with design specifications and building regulations



This is a summary of the recommendations on advice and information for the general population, healthcare professionals, architects and designers, and builders, contractors and developers in NICE's guideline on indoor air quality at home. See the original guidance at www.nice.org.uk/guidance/NG149



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PHE IAQ activities

PHE

- PHE IAQ guidelines for selected VOCs (2019)
- Impact of home air purifiers on IAQ and health (paper submitted)
- CO₂: an indicator or a pollutant?
- School projects: Factors affecting air quality in and around schools
- NIHR HPRU project: VOC/SVOC exposure modelling
- HECC: Indoor Environment Chapter (2022)

Government

- Cross Government Group On Gas Safety And Carbon Monoxide Awareness / All Fuels Action Forum / on-going
- MHCLG Revision of Building Regulations (Part L and Part F)
- Government Review into CO Alarm Requirements (England)
- CMO Cross Gov meeting on IAQ: Setting the scene (Feb 2020)

Other Organisations

- CIBSE TM40: Health Issues in Building Services (2020)
- NICE guidelines / **standard** on indoor air quality at home (PHE co-badged, 2020)
- RCP and RCPCH Systematic Review: “Effects of Indoor Air Quality on Children and Young People’s Health” (2020)
- WHO Experts Group on IAQ and children’s health



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Guidance on building ventilation

<https://www.rehva.eu/activities/covid-19-guidance>

REHVA



Federation of
European Heating,
Ventilation and
Air Conditioning
Associations

REHVA COVID-19 guidance document, March 17, 2020
(updates will follow as necessary)

How to operate and use building services in order to prevent the spread of the coronavirus disease (COVID-19) virus (SARS-CoV-2) in workplaces

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Coronavirus (COVID-19) Advice

Home > Coronavirus COVID 19 >

CORONAVIRUS COVID-19 AND HVAC SYSTEMS

This response outlines the current understanding of the possible routes of transmission of the SARS-CoV2 virus (including airborne transmission) and possible responses that Building Services Engineers can adopt to reduce transmission risks in the built environment.

The current coronavirus (COVID-19) outbreak continues to develop rapidly with relevant advice being updated regularly and an increasing body of research being published.

Government, NHS and Public Health England websites, as well as those of the devolved administrations should be consulted for current policy across the UK.

CIBSE is the UK member of REHVA, the European Federation of Heating and Ventilation Engineers. REHVA has developed a COVID-19 guidance webpage giving information and guidance and has developed

- Coronavirus (COVID 19)
- Emerging from lockdown
- Coronavirus COVID-19 and HVAC Systems
- CIBSE Healthcare Group Information note on Coronavirus
- Construction Leaders write to the Prime Minister seeking further support
- COVID-19 Updates from the CIBSE Journal
- Coronavirus Job Retention Scheme CJRS
- CIBSE's Statement on Academic Accreditation and COVID-19 Interruption to Programme Delivery
- Contractual Documents

<https://www.cibse.org/coronavirus-covid-19/coronavirus-covid-19-and-hvac-systems>



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Guidance on overheating



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Beat the Heat

Coping with heat & COVID-19

Stay cool at home



Many of us will need to stay safe at home this summer



Know how to keep your home cool



Look out for others safely, follow COVID-19 guidance

Stay cool, keep well



Drink plenty of fluids and avoid excess alcohol



Slow down when it is hot



Stay connected, listen to the forecast

Cooler, safer places



Go indoors or outdoors, whichever feels cooler



Self-isolate at home if advised to do so



Use cool spaces considerably, keep your distance

Watch out



Be on the lookout for signs of heat related illness



Cool your skin with water, slow down and drink water



Stay safe when swimming



Get help. Call NHS 111 or in an emergency 999

For more information go to www.nhs.uk/heatwave

PHE publications gateway number: GW-1280



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Beat the Heat

Keep residents safe and well during COVID-19

During previous heatwaves, people in residential and care settings have been at particularly high risk of illness and death. During the COVID-19 pandemic, it is especially important that you know what actions to take to keep residents safe from high temperatures.

Residents at highest risk

Many people at high risk from heat are also at risk of severe illness if infected with COVID-19.

Some medications can also place people more at risk from heat.



Identify those at highest risk



Know your care home response plan



Monitor temperatures in all rooms

Keep residents cool

Keeping cool is vital in hot weather. There are actions you can take to help residents remain well. Signs of heat related illness include nausea, drowsiness and headache.



Recognise heat related illness



Monitor hydration and fluid intake



Fans **only** for use in single rooms with COVID-19 free residents

Keep the building cool

There are simple actions to take to reduce overheating in care homes.



Open windows at night to allow for cooling



Use blinds to reduce heat gain and create cross ventilation if possible



Turn heating systems off

Take action

Treatments for heat-related illness are always the same. Cool the person down and get help if they are unresponsive.

<26°C

Move to somewhere cooler if safe to do so



Cool showers, wet skin, fluids



Get help or Call 999 in an emergency

For more information go to www.nhs.uk/heatwave



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Guidance on overheating Resources

Heatwave Plan for England:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/801539/Heatwave_plan_for_England_2019.pdf

- **Beat the Heat – Coping with heat and COVID-19**

(Poster): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888247/Beat_the_Heat_2020.pdf

- **Beat the Heat – Coping with heat and COVID-19** (Leaflet):

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888252/Beat-the_Heat_Leaflet_Coping_with_heat_and_COVID-19.pdf

- **Beat the Heat – Keep residents safe and well during COVID-19**
(Poster and checklist):

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888249/Heat_flier_Residents_2020.pdf

- **Specific advice and guidance on coronavirus (COVID-19):**

<https://www.gov.uk/coronavirus>



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Let's work together



for healthy indoor environments

Thank you!

www.gov.uk/phe

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