

AIRCRAFT NOISE AND PUBLIC HEALTH: THE EVIDENCE IS LOUD AND CLEAR

Aircraft noise can no longer be considered simply as an inconvenience to people's lives. Major studies have concluded that aircraft noise is negatively affecting people's health and quality of life. Exposure to aircraft noise can lead to short-term responses such as sleep disturbance, annoyance, and impairment of learning in children, and long-term exposure is associated with increased risk of high blood pressure, heart disease, heart attack, stroke, dementia, and may contribute to long-term mental health issues.

In the UK, over one million people are exposed to aircraft noise above levels recommended for the protection of health. Aircraft noise has an estimated health cost of £540 million per year

The World Health Organisation has produced evidence-based noise guidelines which recommend noise limits to protect health. New WHO guidelines are expected in 2016 and will reflect the latest evidence on how noise from specific sources affects health.

The EU Environmental Noise Directive requires Member States to map major sources of noise,

RECOMMENDATION: Government should commit to developing specific long-term targets to protect the public from the health impacts of aircraft noise.

Steps to achieving the recommendation:

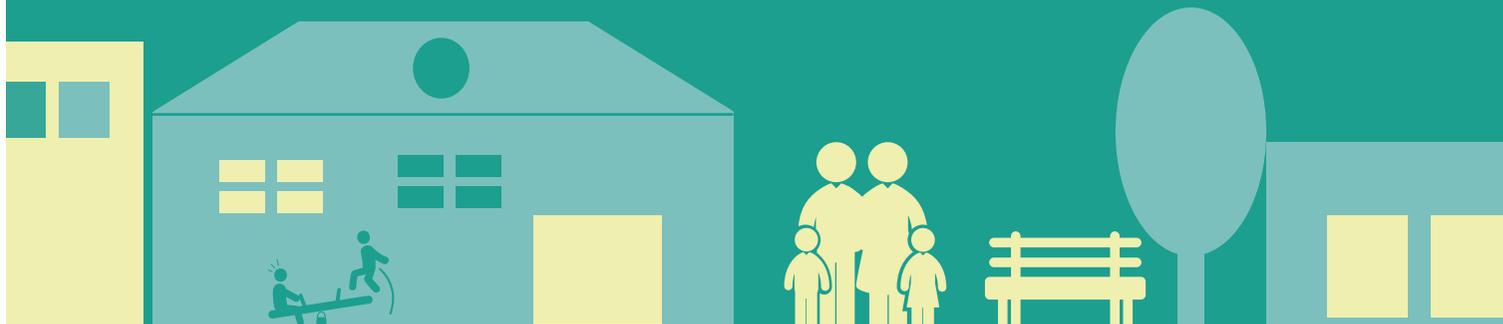
- 1 Government should draw on all available evidence including the anticipated WHO guidelines, upcoming noise attitudes survey and any other recent research, in setting its long-term objectives for aircraft noise.
- 2 All existing policies should be reviewed to ensure that they take full account of the health impacts from aircraft noise and that any changes are permitted only if they help to deliver the long-term noise objectives.
- 3 Future aviation policy decisions should assess the impact from aircraft noise on health, including through Health Impact Assessments where appropriate, and should ensure that health impacts are monetised to inform cost-benefit analyses.
- 4 The five yearly revisions of noise action plans and noise exposure maps should be used to assess progress towards achieving health-based objectives for aircraft noise.

including airports, and produce noise action plans which have to be updated every five years. But the Directive does not set clear noise targets, despite the EU Environmental Action Plan aiming for noise pollution to significantly decline by 2020 towards WHO recommendations.

Aircraft noise policy does not reflect the evidence on health

The Government's aircraft noise policy "to limit and where possible reduce the number of people affected by aircraft noise" makes no reference to health-based noise targets. This has had knock-on effects for other policies, including the process for flightpath changes, night noise restrictions at Heathrow, Gatwick and Stansted, and policies for noise insulation in schools.

The potential health impacts from aircraft noise associated with a new runway were assessed by the Airports Commission as costing up to £3.7 billion. But because the Commission used the Government's aircraft noise policy to assess the impact, health was not a major consideration in its overall recommendations.



OVER ONE MILLION PEOPLE ARE EXPOSED TO AIRCRAFT NOISE AT LEVELS THAT IMPACT PUBLIC HEALTH



CARDIOVASCULAR DISEASE

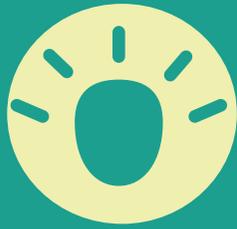
- UK-based studies over the past 10 years have found that higher aircraft noise levels are associated with increased risk of high blood pressure, heart disease, heart attack, stroke and dementia
- A recent study around Heathrow found that people exposed to high levels of aircraft noise had a 24% higher chance of stroke, 21% higher chance of heart disease, and 14% higher chance of cardiovascular diseases compared to people exposed to low levels of aircraft noise
- The increased risk associated with aircraft noise is significant for public health when large numbers of people are exposed to aircraft noise



SLEEP DISTURBANCE

- Sleep disturbance from aircraft noise can have major impacts on health and wellbeing and lead to loss of productivity
- In the UK close to 600,000 people are exposed to night-time aircraft noise levels far above WHO recommendations
- Long-term sleep disturbance is likely to increase the risk of higher blood pressure and cardiovascular disease





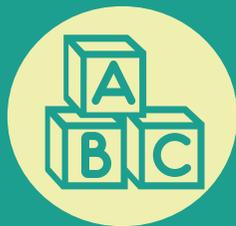
ANNOYANCE

- People are more annoyed by aircraft noise than by road or rail noise of the same decibel level, and annoyance from aircraft noise is increasing
- People are particularly annoyed when there is a major change in noise levels, for example as a result of the introduction of a new flightpath
- The emotional stress response to an aircraft noise event is associated with increased blood pressure levels and higher risk of cardiovascular disease in the long-term



LONG-TERM MENTAL HEALTH

- A recent large study around Frankfurt Airport in Germany found that a 10 dB increase in noise is associated with an 8.9% increase in the risk of depression
- Reviews have concluded that more research is needed into whether aircraft noise has long-term mental health impacts



MEMORY & LEARNING IN CHILDREN

- Over 20 studies have demonstrated that aircraft noise exposure, at school or at home, has impacts on children's reading comprehension or memory skills
- A large scale study around major European airports including Heathrow found that where daytime noise levels exceed 50 dB on average, a 5dB increase in noise exposure is associated with a two month delay in learning in UK primary school children
- Over 460 schools around Heathrow are exposed to aircraft noise levels that may impair learning and memory but Heathrow has so far insulated only 42 community buildings



OPPORTUNITIES TO PROMOTE HEALTH IN 2016

- **New aircraft noise attitudes survey.** Commissioned by the Department for Transport and carried out by Ipsos Mori. This should inform the Government's evidence base about the onset of community annoyance.
- **Airspace change policy and process guidance.** The Government is expected to consult on its overall policy on airspace change and the Civil Aviation Authority is expected to consult on its process.
- **A new runway in the South East.** The Government has delayed a decision on a new runway until at least the summer pending further environmental assessments.
- **Night noise regulations.** The Department for Transport is expected to begin consulting on the night noise regime for Heathrow, Gatwick and Stansted for the period beyond 2017.
- **New health-based noise guidelines.** WHO Europe is expected to publish its new guidelines for community noise based on the latest evidence.
- **Publication of new annex to EU Environmental Noise Directive.** It is anticipated that this will contain new guidance on how to measure impacts including health.

'Aircraft noise and public health: the evidence is loud and clear' was commissioned by HACAN (Heathrow Association for the Control of Aircraft Noise) and the Aviation Environment Trust.

The report is available to download on the AEF and HACAN websites
www.aef.org.uk
www.hacan.org.uk



About AEF

The Aviation Environment Federation (AEF) is the only national NGO campaigning exclusively on the environmental impacts of aviation including noise, air pollution and climate change.



About HACAN

HACAN (Heathrow Association for the Control of Aircraft Noise) is the long-standing body which gives a voice to residents living under the Heathrow flight paths. Founded 50 years ago, it is now a regional body with members from Berkshire in the west to Greenwich and Blackheath in the east.

January 2016

Icons by Freepik
Design by Lucie Basset

