



# The Association of Directors of Public Health

## Policy Position: Outdoor Air Quality

### Key messages

- Outdoor air pollution is a major public health issue costing the UK economy £20bn a year and contributing to over 25,000 deaths a year.
- Coordinated action at the local, regional and national level is needed to tackle it and the health inequality associated with it.
- Whilst ADPH welcomed the 2019 [Clean Air Strategy](#), greater focus is needed on addressing the root causes of air pollution and tackling the inequalities associated with it.
- The UK Government needs to support take-up of low emission vehicles, deliver low emission plug-in schemes in housing and deliver active travel infrastructure and interventions that have co-benefits to health.

---

The Association of Directors of Public Health (ADPH) is the representative body for Directors of Public Health (DsPH) in the UK. It seeks to improve and protect the health of the population through collating and presenting the views of DsPH; advising on public health policy and legislation at a local, regional, national and international level; facilitating a support network for DsPH; and providing opportunities for DsPH to develop professional practice. The Association has a rich heritage, its origins dating back 160 years. It is a collaborative organisation working in partnership with others to maximise the voice for public health.

This policy position outlines our position on outdoor air quality. It has been developed in partnership with the membership and led by the ADPH Built Environment Policy Advisory Group.

### Background

Air pollution causes a considerable burden of death and disability and costs the UK economy £22.6bn every year.<sup>1</sup> In the UK, 40,000 deaths a year are attributable to exposure to outdoor air pollution through increased risk of diseases such as heart disease, stroke, respiratory diseases and cancer.<sup>2</sup> The World Health Organisation (WHO) has called air pollution (both indoor and outdoor) 'the biggest environmental risk to health, carrying responsibility for about one in every nine deaths annually'.<sup>3</sup> Air pollution contributes to thousands of hospital admissions per year and could have long-term impacts on health.<sup>4</sup> One study has shown that air pollution exposure has long-term effects on mortality that persist for decades.<sup>5</sup>

Children are more vulnerable to breathing in polluted air than adults. If a child breathes high levels of air pollution over an extended period, they might be at risk of developing asthma, wheezing, coughs, lung cancer when they are older and contracting infections like pneumonia.<sup>6</sup> A recent WHO report attributed a mortality rate of 25.7 per 100,000 to outdoor and indoor air pollution in the UK. This is higher than mortality rates in Spain, Portugal, and France.<sup>7</sup>

### Focus on inequalities

There are striking health inequalities associated with outdoor air pollution. In 2003, Mitchell and Dorling undertook the first national level environmental justice analysis of air quality in Britain and established that there were clear inequalities in exposure to air pollution based on demography, poverty and car ownership.<sup>8</sup> More recent research has found that in England and Wales, young children and adults, and households in poverty are more likely to suffer from the effects of traffic than older people and more affluent households. Affluent households contribute the most to emissions through ownership of the most vehicles.<sup>9</sup> Research carried out by Imperial College London showed that there were higher concentrations of particulate matter and nitrogen dioxide in the most deprived 20% neighbourhoods in England.<sup>10</sup> Air pollution also has an impact on children living in deprived areas. In 2015, 328,000 children attended schools in London where the average concentrations of NO<sub>2</sub> exceeded the EU limit value, this accounted for 25% of the total school population. Schools in the deprived areas of London were most likely to be affected.<sup>11</sup>

### **Policy context**

Managing and improving outdoor air quality is largely driven by EU legislation, which means there is uncertainty about what will happen once the UK has left the European Union. The [2008 ambient air quality directive](#) sets legally binding limits for concentrations in outdoor air of major air pollutants and was made law in England through the [Air Quality Standards Regulation 2010](#). Equivalent regulations exist in Scotland, Wales and Northern Ireland. The UK Government is responsible for compliance with the EU's limits and deadlines. Following the [Environment Act 1995](#), local authorities are responsible for reviewing and assessing air quality, and if they are falling short must declare an Air Quality Management Area and produce an action plan. In May 2017, Defra published principles which local authorities should follow when setting up Clean Air Zones in England ([Clean Air Zone Framework](#)) and in June 2017 NICE updated its [guidance on air pollution: outdoor air quality and health](#). NICE guidance on indoor air pollution is forthcoming.

In July 2017 the UK Government published a new [UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations](#). The 2018 [Road to Zero Strategy](#) shortly followed, which set out how the Government will support the transition to zero emission road transport. In March 2019, Public Health England published an [evidence review of effective interventions for tackling air pollution](#).

In January 2019 the UK Government published its [Clean Air Strategy](#) which set out plans to reduce air pollution. The strategy aims to reduce particulate matter concentrations across the UK, so that the number of people living in locations above the WHO guideline level of 10 µg/m<sup>3</sup> is reduced by 50% by 2025. In April 2019 the UK Government published its [Transport appraisal and modelling strategy: informing future investment decisions](#). ADPH responded to the consultation making the case for increased funding for sustainable transport solutions to reduce congestion, improve air quality and promote physical activity.

### **ADPH Position**

#### A whole system approach

At the local, regional and national levels we need to take a whole system approach to improving outdoor air quality developed and implemented by key partners across transport, planning, health and education. Effective partnership working is vital for bringing down mortality associated with air pollution. Air pollution does not adhere to local authority boundaries. In 2017, Defra, the LGA and the ADPH [published Air Quality:](#)

[A Briefing for Directors of Public Health](#), which provides guidance to DsPH about how they can work collaboratively with local partners to improve air quality.<sup>12</sup>

### Public health funding

Public health funding in England has been substantially cut, with expected spending in 2019/20 £850 million lower in real terms than in 2015/16. With population growth factored in, £1 billion a year will be needed to restore funding to 2015/16 levels, according to analysis by the King's Fund and the Health Foundation.<sup>13</sup> Although DsPH have been acting to manage these cuts without detriment to outcomes they have reached the limit of available efficiencies. Cuts to public health funding will result in cuts to interventions which reduce harm caused by air pollution.

### Co-benefits to health

Prioritising initiatives that maximise the benefits to both population health and the environment represents best value for money for local authorities as well as having a greater positive impact overall. These 'co-benefits' to health could include increasing physical activity and reducing air pollution caused by vehicles.

### Active travel

Improvements to air quality can be achieved through making walking, cycling and use of public transport the preferred and accessible form of mobility. 81.2% of DsPH prioritise active travel in terms of transport policy and investment decisions. Active travel needs to be properly reflected in appraisals. Private car travel remains dominant across the country overall, this is both a cause and effect of how transport modelling and appraisals are designed and implemented. More focus should be given to improving how the overall benefits of cycling are appraised, especially health benefits, so this can be better reflected in investment decisions. To give one example, the London School of Economics and Sky state that the sale of bicycles, accessories and bicycle maintenance, health savings, absenteeism, and employment associated with cycling in the UK combined to create a £2.9bn annual contribution to the UK economy (£230 per cyclist, per year).<sup>14</sup> The adoption of 20mph speed limits, where appropriate, could have positive effects such as reducing air pollution, noise pollution and road traffic injuries, making it safer for children to engage in more physical activity outside while supporting greater community cohesion and the viability of local businesses.<sup>15</sup> There are opportunities for win-win approaches that view economic growth, environmental sustainability and economic success as complimentary and interconnected, rather than competing or contradictory goals. For instance, the Mayor of London's strategy, [Transport and Health in London](#), aims to achieve economic benefits of nearly £2.2billion through the promotion of active travel.<sup>16</sup>

### Moving towards cleaner vehicles and buildings

The proportion of cars fuelled by diesel in Great Britain has almost doubled over the past decade from 20% in 2005 to 37.8% in 2015.<sup>17</sup> There is a need to move towards lower emission vehicles and rises in vehicle excise duty could be one way of achieving this. 71.3% of DsPH support incentivising the use of low-emission vehicles and adjusting Vehicle Exercise Duty to reflect the impact of diesel vehicles on levels of nitrogen dioxide in the atmosphere.<sup>18</sup> The Mayor of London, Sadiq Khan, has published proposals for a national scrappage scheme and a model for cities to tackle air pollution from diesel.<sup>19</sup> The use of raised exhaust pipes and road systems which encourage continual traffic flow rather than stopping and starting can help to mitigate the impact of diesel and heavy goods vehicles. Mitigation can also take place through the structure of the built environment. For example, wider pavements, trees and street furniture between footpaths and roads, and cycling infrastructure can all have a positive impact. Domestic and commercial heating systems are another important source of air pollution within the UK. Improving the energy

efficiency of homes and commercial buildings has the potential to contribute to reducing emissions as well as imparting multiple other co-benefits, such as reducing household energy bills, fuel poverty and excess winter deaths.

### Research and evidence

Better evidence is needed to demonstrate the impact of public health interventions to tackle air pollution, carefully considering unintentional consequences and learning from past programmes, for example promoting diesel vehicles with the ill-considered negative consequence of increasing nitrogen dioxide and PM10. More evidence is needed to identify high impact interventions which are likely to have the greatest co-benefits for both air quality and health. The research agenda needs to focus on how changes to the built environment can support uptake of active travel and public transport and the policies needed to achieve this. It should also be noted that communicating the impacts of air pollution to the population and alerting those considered more vulnerable to poor air quality days is extremely important and more innovative approaches are needed to make this messaging effective and useful.

## **ADPH Recommendations**

### National

- Investment in public health must be increased. The Spending Review next year must deliver a sustainable package for public health in local government. The Public Health Grant needs at least £1bn more a year to reverse years of cuts to public health funding.
- The Government should tackle the social determinants of health. Building wellbeing into policy decision making and funding allocation should be a cross-government priority, supported by a new 'health index' and better utilisation of existing ONS wellbeing statistics.
- The Government should set out a clear plan for achieving the WHO air quality standards, including the role that councils should play and how that will be funded.
- Governments across the four nations should prioritise active travel in transport policy and continue to invest in infrastructure for active travel. This should be set out clearly within appraisal and modelling strategies.
- The Government should incentivise the use of low-emission vehicles and use fiscal levers to increase the use of less polluting vehicles and require housing developments to install infrastructure fit for future new technological vehicles, making that switch easier for the population.
- Governments across the four nations should support commercial fleet operators to switch to more environmentally friendly fuels and technologies and lead the way by switching to lower polluting vehicles for the NHS and other Government fleet vehicles.
- The Government should commit to a cost-benefit analysis of a national diesel scrappage scheme in England.
- Vehicle Excise Duty should be adjusted to reflect the impact of diesel vehicles on levels of nitrogen dioxide in the atmosphere.
- Government should identify plug-in technology that is easily transferrable between vehicles and plug-in stations formulating a standard new technology must follow.
- Funding should be provided for research on the implementation and evaluation of interventions that address air pollution while maximising the benefits to health. More research is needed into

advice that should be given to vulnerable groups on days when air pollution levels are high and effective ways of communicating the impacts and supporting behaviour change is needed.

- Infrastructure to support walking, cycling and use of public transport needs to continue to be developed.
- Across all four nations we would like to see closer working between the departments of transport, health and environment to enable a more co-ordinated approach to air pollution.

### Local

- Local authorities should adhere to recently published [NICE guidance on air pollution](#), which contains recommendations based on most recent evidence.
- Local authorities should work with schools to educate both children and parents about the impact of air pollution on their health, and their role in tackling it.
- More collaborative work should be taking place across public health, parks and planning departments. For example, a commitment to tackling air pollution should be included in strategy documents which guide planning decisions.
- Specific Air Quality Policies should be included in all Local Plans to restrict, where appropriate, any new development in areas of identified poor air quality and set expectations for new developments, whatever size of development, to have to consider mitigation options for its impact on air quality.
- All new developments should be required to ensure adequate secure cycle storage is available for each new home built.
- All new developments should be required to provide plug-in technology for hybrid/electric vehicles.
- Air quality data should be included in Joint Strategic Needs Assessments so that Health and Wellbeing Boards, and other local partners, are equipped with the information needed to act.
- Areas should consider adopting a 20-mph speed limit and phased traffic lighting where it is feasible and appropriate.
- Infrastructure to support walking, cycling and use of public transport needs to continue to be developed and local authorities should aim for at least 10% of the local transport budget to be dedicated to active travel.

### **Association of Directors of Public Health**

Original statement: November 2017

Next Review: November 2020

---

<sup>1</sup> Royal College of Physicians, *Reducing air pollution in the UK: Progress report 2018* (2018)

<sup>2</sup> Royal College of Physicians, *Reducing air pollution in the UK: Progress report 2018* (2018)

<sup>3</sup> World Health Organisation, *Ambient air pollution: a global assessment of exposure and burden of disease* (2016)

<sup>4</sup> Defra, *Air Pollution in the UK* (2015)

<sup>5</sup> Hansell, A., et al (2016). Historic air pollution exposure and long-term mortality risks in England and Wales: prospective longitudinal cohort study, *Thorax* 71, 330-338.

<sup>6</sup> British Lung Foundation, *How air pollution affects your children's lungs* [<https://www.blf.org.uk/support-for-you/signs-of-breathing-problems-in-children/air-pollution>] accessed 12 November 2019.

<sup>7</sup> World Health Organisation, *World health statistics 2018: monitoring health for the SDGs* (2018)

<sup>8</sup> Mitchell, G., & Dorling, D. (2003). An environmental justice analysis of British air quality, *Environment and Planning A*, 35, 909-929.

- 
- <sup>9</sup> Barnes, J. and Chatterton, T (2017). An environmental justice analysis of exposure to traffic-related pollutants in England and Wales, *WIT Transactions on Ecology and the Environment*, 210 (12), 431-442.
- <sup>10</sup> Fecht, D. et al (2014). Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherland, *Environmental Pollution*, 198, 201-210.
- <sup>11</sup> Policy Exchange, *Up in the Air: How to solve London's air quality crisis Part 1* (2016)
- <sup>12</sup> Department for Environment, Food and Rural Affairs, the Local Government Association and the Association of Directors of Public Health, *Air Quality: A Briefing for Directors of Public Health* (2017)
- <sup>13</sup> The King's Fund, Public health: our position [<https://www.kingsfund.org.uk/projects/positions/public-health>] accessed 30 October 2019.
- <sup>14</sup> London School of Economics, *The British Cycling Economy: Gross Cycling Product Report* (2011)
- <sup>15</sup> Jones, S. J., & Brunt, H (2017). Twenty miles per hour speed limits: a sustainable solution to public health problems in Wales, *Journal of Epidemiology and Community Health*, 71, 699-706.
- <sup>16</sup> Mayor of London, *Transport and Health in London: the main impacts of London road transport on health* (2014)
- <sup>17</sup> House of Commons Library, *Parliamentary debate 19/04/17: A diesel vehicle scrappage scheme* (2017)
- <sup>18</sup> Association of Directors of Public Health, *ADPH Policy Survey 2019: Results Report* (unpublished)
- <sup>19</sup> House of Commons Library, *Parliamentary debate 19/4/17: A diesel vehicle scrappage scheme* (2017)