

Written evidence submitted by British Thoracic Society (PHS0567)

Improving air quality to prevent and alleviate respiratory disease

The British Thoracic Society believes that accelerating government measures to address poor air quality will contribute to a reduction in respiratory-related disease.

The Committee should consider this issue as evidence shows that exposure to even low-level air pollution has a negative and significant impact on respiratory health and contributes to an estimated 50,000 deaths in the UK each year¹. As well as impacting pre-existing health conditions, frequent exposure to outdoor air pollution increases the risks of asthma, lung cancer, heart disease, dementia, diabetes and stroke.

The [BTS Position Statement on Air Quality and Lung Health](#) asserts that every person has the right to breathe clean air. The statement covers three key areas, namely outdoor/ambient air pollution, indoor/domestic air quality and poor air quality in the workplace.

One of the largest sources of ambient air pollution in the UK is road transport, with diesel vehicles responsible for emitting the highest levels of the most damaging air pollutants - nitrogen dioxide (NO₂) and fine particulate matter (PM_{2.5}). We believe the government should address the impact of transport, particularly in the worst affected urban areas and bring forward current air quality targets to ensure the UK meets the World Health Organisation (WHO) Global Air Quality guidelines². This would ensure a reduction in negative health impacts, particularly for those groups who are at the most severe risk of harm, such as children and older people.

BTS welcomes the expansion of the ULEZ scheme into outer London in August 2023, as research has shown that the ULEZ contributed to a 44% reduction in NO₂ and a 27% reduction in (PM_{2.5}) concentrations in the first year of the scheme.³ However, if large volumes of traffic remain on our roads, the ULEZ expansion will only mitigate some of the factors that lead to poor air quality. For example, particles from brake, tyre and road surface wear contribute to high levels of fine Particulate Matter (PM), which are associated with hospitalisation and increased mortality for people with COPD, asthma or ischaemic heart disease⁴. To help address this, the Committee should explore further investment in affordable and accessible transport and promote national campaigns that encourage active travel such as walking and biking.

The Committee should also consider the effects of Indoor Air Pollution (IAP), which comprises a very wide range of physical agents such as dampness, biological agents such as allergens, mould and airborne respiratory pathogens) and chemical agents. The potential for Indoor Air Pollution (IAP) to cause harm is high, as people in the UK spend up to 60% of their time at home and a further 20-30% in other indoor spaces such as schools, workplaces and shops⁵. Further research in this area is needed as, for most sources of IAP, there are no data on their potential damage to respiratory or safe levels of exposure. As with pollution from road traffic, the risks of indoor air pollution are likely to impact the most vulnerable members of society who spend more time at home, such as older people or people with underlying lung diseases, or areas where people experience the highest levels of health inequalities.

The third area that needs to be addressed is that of air quality in the workplace, where both indoor and outdoor pollution may be present. Poor air quality at work is a common cause of respiratory disease, and it is estimated that 15-20% of asthma, COPD and Lung Cancer can be attributed to workplace exposure. Furthermore, workplace pollution disproportionately affects people with pre-existing respiratory conditions such as asthma and COPD with exposure to airborne dust and fumes,

leading to a worsening of symptoms. In addition to the costs to the individual in terms of poor health outcomes and often unemployment, the impact on society of work-related lung disease is also high. It is estimated that the lifetime costs for occupational asthma alone are more than £100 million.⁶

We believe the Committee can play a key role in exploring these three areas further with a view to raising awareness of the issues and recommending ways to address these. The Committee could also assist with identifying opportunities for nationally funded research to examine the effects of poor air quality on respiratory health and to promote innovative ways to reduce the impact of exposure.

References

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Feb 2023