Department for Environment, Food and Rural Affairs – Consultation on environmental targets

Response by the Royal College of Physicians

About the Royal College of Physicians

The Royal College of Physicians is the membership body for hospital doctors. Our role is to support physicians to deliver the best healthcare possible for patients and improve standards of care. We represent 41,000 members and fellows in the UK and internationally from over 30 medical specialties from cardiology and gastroenterology to infectious disease and respiratory medicine.

We have campaigned extensively about the health impacts of air pollution over a number of years, and this submission focuses specifically on the target proposals for air quality set out in the consultation.

Questions on concentration target

Do you agree or disagree with the level of ambition proposed for a PM2.5 concentration target?

Disagree

What reasons can you provide for why the government should consider a different level of ambition?

The Royal College of Physicians (RCP) welcomes the opportunity to contribute to the Department for Environment, Food and Rural Affairs' consultation on its environmental targets. In this response we focus specifically on the proposed air quality targets, which are crucial to driving decisive policy action to tackle air pollution. Air pollution represents a major public health challenge. A joint report by the RCP and the Royal College of Paediatrics and Child Health in 2016 highlighted that each year in the UK the equivalent of around 40,000 deaths can be attributed to outdoor air pollution linked to exposure to fine particulates and NO_2 (Every breath we take: The lifelong impact of air pollution).

We wish to restate our position as expressed in this report "*Air Pollution should be considered a major public health problem deserving of multiple measures to drive down exposure in as many ways as possible. It is our view that this requires urgent, determined and multidisciplinary action that is long overdue. Indeed, if we do not act now, our children and generations to follow will be those who suffer from our failure to act*". Since the 2016 report, the magnitude of the contribution of air pollution to non-communicable diseases, the range of diseases and negative impact on pregnancy outcomes and early life development has greatly increased and deserves greater attempts to reduce this key driver of adverse health.

The RCP does not believe that the proposal outlined in the consultation to set the annual mean concentration target at 10 micrograms per cubic metre (µg m^{-3}) by 2040 is sufficiently ambitious. We note that the World Health Organisation (WHO) originally proposed 10µg m^{-3} as a guideline value for PM2.5 in 2005 (WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide – Global update 2005) and has since further revised its guidance downwards.

We believe that the target date should be no later than 2030, and that government should seek to reduce annual mean concentration for PM2.5 to 10µg m^{-3} as an interim target (as laid out by the WHO) soon as possible. In their recently published report on The Pathway to Healthy Air in the UK,

the Clean Air Fund and Imperial College London say that reaching 10µg m^{-3} by 2030 is clearly feasible, with many parts of the UK already on course to meet this. The report projects that this would lead to 3,100 fewer coronary heart disease cases and 388,000 fewer reported asthma symptom days in children each year, and that the total economic benefits would be in excess of £380 billion. Meeting 10µg m^{-3} by 2030 would deliver significant health and economic benefits. Waiting until 2040 to reach 10µg m^{-3}, 35 years after the initial recommendation was made by WHO, is certainly not ambitious enough when the clear impact of air pollution on health and health inequalities is so grave.

We also note that the government's own analysis, as presented in the detailed evidence report published alongside the consultation (p. 106), indicates that reaching 11µg m^{-3} is likely to be achievable by 2030 across most modelled scenarios including the government's preferred 'High' ambition option. Given this, setting a target which would not see 10µg m^{-3} reached for a further decade does not seem justifiable.

Importantly, we also emphasise that 10µg m^{-3} must be seen as an interim target, and that government's ultimate objective should be to reduce annual mean concentration for PM2.5 to 5µg m^{-3} in line with WHO's updated air quality guideline values which were published last year. Policy interventions should not simply seek to reach 10µg m^{-3} but go beyond it and provide a platform to achieve the 5µg m^{-3} currently recommended by WHO. We continue to learn more about air pollution and its health and wider environmental effects every day, so government must be prepared to take increasingly ambitious action to mitigate its impacts on health. It should also be noted that policies to reduce air pollution can have positive impacts for health in their own right – for example, the Health Foundation have examined the health benefits of active travel and found that increasing walking and cycling rates could prevent around 1,190 early deaths each year (Health benefits of active travel: preventable early deaths).

As an additional point, we also have concerns about the proposed methodology for air quality assessments (set out in Table 1 of the consultation document). This indicates that if the concentration target set in legislation is not met at monitoring sites by the target end date, it will still be considered to have been achieved if it was met in three of the previous four years. In the detailed evidence report it is noted that this is to provide a contingency in case the target year is an anomalous one, for example due to adverse weather conditions which can increase annual concentrations by approximately 1µg m^{-3} for the same level of emissions (p. 108). We do not agree with the proposed approach, particularly as the detailed evidence report explains that a 1µg m^{-3} buffer will already be built into measurements at monitoring sites to account for variations that may result from changes in weather or local conditions (p. 104). To ensure the integrity of the concentration target, it should be firmly established that if this is not met at monitoring sites by the target end date then it will not have been achieved, regardless of performance in preceding years.

Questions on exposure reduction target

Do you agree or disagree with the level of ambition proposed for a population exposure reduction target?

Disagree

What reasons can you provide for why the government should consider a different level of ambition?

The RCP believes that the target date for achieving a 35% reduction in population exposure to PM2.5 should be adjusted from 2040 to 2030. This would align the exposure target with the more ambitious concentration target proposed in our answer to the previous question and in line with the European Green Deal's Zero Pollution Action Plan to 2030.

In addition, we are keen to highlight the importance of addressing exposure to ultrafine particles as well as PM2.5. Ultrafine particles (those with an aerodynamic diameter of 0.1µg m^{-3} or less), which generally have man-made sources such as diesel powered cars or factory emissions, are a particular concern as they can penetrate the deepest lung passageways, be absorbed into the circulation and carry toxic materials like a Trojan Horse which may trigger inflammation and disease (Hyouk-Soo Kwon et al, Ultrafine particles: unique physiochemical properties relevant to health and disease, Experimental and Molecular Medicine, 52 (2020), 318-328).

While there are challenges in monitoring ultrafine particles due to their small size and short atmospheric lifetime, technology in this area is developing rapidly. Achieving reductions in ultrafine particles alongside PM2.5 should therefore be an important consideration for government as it develops policy interventions for improving air quality and improvements in the health of the nation over the coming years.

Contact

For further information about the points raised in this submission please contact policy@rcp.ac.uk