

Environment, Food and Rural Affairs Select Committee: Air Quality

Written evidence submitted by the Royal College of Paediatrics and Child Health - August 2020

Background

The Royal College of Paediatrics and Child Health (RCPCH) is responsible for training and examining paediatricians, setting professional standards and informing research and policy. RCPCH has over 19,000 members in the UK and internationally. We work to transform child health through knowledge, research and expertise, to improve the health and wellbeing of infants, children and young people across the world.

Air quality is inextricably linked to climate change. The RCPCH is a member of the [UK Health Alliance on Climate Change](#) (UKHACC). This alliance brings together doctors, nurses and other health professionals to advocate for responses to climate change that protect and promote public health. RCPCH signed up to UKHACC's [six principles for a healthy recovery](#) from the COVID-19 pandemic.

Executive Summary

Research shows that air quality has a significant impact on the health of children and young people. This is due to the body growing and developing rapidly during gestation, infancy and early childhood. Research also shows that children from the most deprived backgrounds are more likely to be regularly exposed to poor air quality, in both indoor and outdoor settings. Whilst the measures introduced by the Government in response to COVID-19 have seen some improvement in outdoor air quality in the UK, the scope for the pandemic to entrench existing health inequalities means this improvement will be of limited health benefit to the children and young people from the most deprived backgrounds.

The Government must go further than their current Clean Air Strategy to ensure progress on improving air quality is made more rapidly, and that those experiencing deprivation do not continue to be exposed to poor outdoor and indoor air quality. The Government must empower local authorities, through devolution and the provision of funding, to take local action that meets the needs of local communities.

1. Impact of air quality on children's health

1.1 Health impacts of outdoor air quality

There is a wide body of research that shows that outdoor air pollution has a negative impact on health. It is estimated that, on an annual basis, approximately 40,000 deaths are attributable to outdoor air pollution in the UK. Air pollution has been linked to cancer, asthma, cardiovascular disease, diabetes, obesity and dementia. This damage occurs across a lifetime.¹

1.2 Health impacts of indoor air quality

There are several well-established health risks from indoor air pollution, from carbon monoxide, tobacco smoke, radon and asbestos.² Children, particularly in the UK, spend almost all their time inside. The overwhelming majority of research on the health impacts of indoor air pollution are concerned with respiratory health, and there are also some links to dermatitis and other dermatological conditions.³ People are primarily exposed to pollutants through inhalation, but they can also be absorbed by the skin or ingested. Those with low income have fewer choices about where to live, and don't have money to make home improvements.

1.3 Impacts specific to children and young people

During gestation, infancy and early childhood, the body is growing and developing rapidly. This makes children and infants particularly vulnerable to the impact of this damage. Whilst there is limited research in this area, it seems that air pollution can have effects on growth and the development of the brain and coordination. The heart, brain, hormone systems and immunity can all be harmed by air pollution.⁴ Air pollution can have an impact on a foetus during pregnancy, and has been linked to low birth weight.⁵

1 RCP and RCPCH, *Every Breath We Take: the lifelong impact of air pollution*, 2016, p xiii, <https://www.rcplondon.ac.uk/projects/outputs/every-breath-wetake-lifelong-impact-air-pollution>

2 RCP and RCPCH, *The Inside Story: Health effects of indoor air quality on children and young people*, 2020, p 10-11, https://www.rcpch.ac.uk/sites/default/files/2020-01/the-inside-story-report_january-2020.pdf

3 RCP and RCPCH, *The Inside Story: Health effects of indoor air quality on children and young people*, 2020, p 43, https://www.rcpch.ac.uk/sites/default/files/2020-01/the-inside-story-report_january-2020.pdf

4 RCP and RCPCH, *Every Breath We Take: the lifelong impact of air pollution*, 2016, p 36, <https://www.rcplondon.ac.uk/projects/outputs/every-breath-wetake-lifelong-impact-air-pollution>

5 Ha S, Hu H, Roussos-Ross D et al. *The effects of air pollution on adverse birth outcomes*. Environ Res 2014, 134, p 198–204.

Children and young people are also more likely to be in closer proximity to sources of pollution such as vehicle exhaust systems, because of their shorter heights. This is one factor that contributes to the fact that 93% of children breathing polluted air every day.⁶ The 2019 report of The Lancet Countdown on health and climate change recognised that children are among the worst affected by climate change.⁷

2. Air quality and health inequalities

2.1 Deprivation and air quality

Respiratory causes are in the top three causes of death in the 5-9 age group in England and Wales,⁸ and the top six causes of death within the 10-19 age group.⁹ Across the UK, the most deprived communities experience the worst air quality, which further drives health inequalities.¹⁰

2.2 Outdoor air and health inequalities

Deprived communities are more likely to experience adverse health effects from poor air quality as they are more likely to live close to busy roads, and less likely to live close to green spaces.¹¹ Children living in highly polluted areas are four times more like to have reduced lung function in adulthood.¹²

2.3 Indoor air and health inequalities

Increasing attention is being given to the impact of indoor air quality. It is linked to a range of childhood health problems including asthma, wheezing, conjunctivitis, dermatitis, and eczema.¹³ Indoor air quality tends to be poorer in low quality housing where ventilation may be inadequate or insufficient. Moisture and mould are often present which aggravate respiratory conditions, as can exposure to higher levels of carbon monoxide and particulate matter.¹⁴

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- 6 World Health Organisation, *Air pollution and child health: prescribing clean air*, 2018, p 2, <https://www.who.int/ceh/publications/air-pollution-child-health/en/>
- 7 Nick Watts, Markus amann, Prof Nigel Arnell, Sonha Ayeb-Karlsson, Kristine Belesova, Prof Maxwell Boykoff, *The 2019 report of the Lancet Countdown on health and climate change*, 2019, Volume 394: 10211, p 1836, <https://www.thelancet.com/action/showPdf?pii=S0140-6736%2819%2932596-6>
- 8 RCPCH, *State of Child Health*, 2020, <https://stateofchildhealth.rcpch.ac.uk/evidence/mortality/child-mortality/>
- 9 RCPCH, *State of Child Health*, 2020, <https://stateofchildhealth.rcpch.ac.uk/evidence/mortality/adolescent-mortality/>
- 10 DEFRA, *Clean Air Strategy*, 2019, p24, <https://www.gov.uk/government/publications/clean-air-strategy-2019>
- 11 DEFRA, *UK plan for tackling roadside nitrogen dioxide concentrations: technical report*, 2017 p 48, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/632916/air-quality-plan-technical-report.pdf
- 12 RCPCH, *Prevention Vision for Child Health*, 2019, p 18, https://www.rcpch.ac.uk/sites/default/files/2019-06/rcpch_prevention_vision_for_child_health_-_june_2019.pdf
- 13 RCPCH and RCP, *The Inside Story: Health effects of indoor air pollution on children and young people*, 2020, p 43, <https://www.rcpch.ac.uk/sites/default/files/2020-01/the-inside-story-report-january-2020.pdf>
- 14 RCPCH and RCP, *The Inside Story: Health effects of indoor air pollution on children and young people*, 2020, p 46, <https://www.rcpch.ac.uk/sites/default/files/2020-01/the-inside-story-report-january-2020.pdf>

3. Impact of COVID-19

3.1 COVID-19, children and health inequalities

Data consistently show that poverty and inequality impact a child's whole life course, affecting their education, housing and social environment and in turn impacting their health outcomes. The recent pandemic threatens to entrench the health inequalities we see in the UK. This is brought into focus when we look at the experience of children and young people. Children and young people are generally less seriously affected by COVID-19 than adults in direct terms, but they are more at risk from the negative longer-term consequences of the current pandemic.

Children and young people have been the 'collateral damage' from COVID-19, primarily through the widespread closure of schools to most pupils, and the need for local authorities to pause the provision of public health services, that which children disproportionately use, in order to respond to the urgent demands of the pandemic.

The negative impact of this will be more acutely born by socially vulnerable children, who have worse health outcomes than their less vulnerable counterparts. Being out of school has a more significant impact on their health and life chances.¹⁵

As a consequence, we are storing up health problems for our children and young people that may have significant impacts on their lives, and increase pressure on services in the future.

3.2 COVID-19 and air quality

Due to the pandemic, there have been fewer cars and other modes of transport on the roads. There has been some research conducted that points to improved outdoor air quality as a result.¹⁶ This is unlikely to have much benefit for children and young people living in the most deprived areas, who are less likely to access to a garden or outdoor space, and so will have been spending more time indoors, in the conditions cited above. Whilst improved outdoor air quality has been one of the positives of the last few months, the Government must be mindful that not everyone shares in these benefits equitably.

3.3 A healthy recovery from COVID-19

As members of the UKHACC, RCPCH has called on the Government to ensure our nation's recovery from COVID-19 should not jeopardise our ability to respond to climate change. This includes ensuring measures that will improve air quality are prioritised and extended. Both COVID-19 and climate change are fundamental health challenges, so any recovery from the pandemic must keep health considerations at its heart. UKHACC have set out [six steps for Government](#) to follow to ensure a healthy recovery from COVID-19.¹⁷

15 RCPCH, *State of Child Health*, 2020, <https://stateofchildhealth.rcpch.ac.uk/evidence/family-and-social-environment/child-poverty/>

16 Centre for Research on Energy and Clean Air, *Lockdown impact on air pollutant levels*, 2020, <https://energyandcleanair.org/publications/>

17 UKHACC, *Principles for a healthy green recovery*, 2020, <http://www.ukhealthalliance.org/>

4. The Government's Clean Air Strategy

Air pollution is a clearly modifiable and avoidable cause of morbidity and mortality and as such, action can and should be taken to reduce or remove this harm. Whilst the Government's *Clean Air Strategy* was a positive step, we believe it does not go far enough in ensuring all children and young people enjoy their right to a healthy environment, as enshrined in the UN Convention of the Rights of the Child.¹⁸

Although the Government's *Clean Air Strategy* identifies that "*Effects [of air pollution] are amplified in vulnerable groups including young children*", it does not outline targeted measures to protect children and young people specifically from exposure. Therefore, the *Clean Air Strategy* must be extended in order to ensure it addresses the amplified effects on children, and to include indoor air quality within its scope. With regard to indoor air quality, the Government should set emission standards, devise a labelling system for building materials, furniture, and home decorating products, based on any health hazards. Additionally, the Government should provide funding for local authorities to provide maintenance to housing in breach of these standards that the household cannot afford to undertake themselves.

5. Calls to Government

- The UK Government should go further than its current commitment to reduce greenhouse gas emissions to net zero by 2050 by bringing the target forward.
- The RCPCH supports the expansion of clean air zones in towns and cities and expanding the infrastructure to support active travel by public transport and electric vehicles. This includes ensuring populations living in rural and remote communities also have adequate public transport links. We support giving local authorities the power and funding to close or divert roads when air pollution exceeds set limits.
- The Government's *Clean Air Strategy* should be expanded to include a comprehensive, cross-government approach to addressing the adverse health impacts of indoor air quality, particularly on those from deprived backgrounds.
- The Government should adopt a 'child health in all policies' approach to policy-making, to ensure the facilitation of the adoption of policies that are inherently preventative of negative health outcomes and experiences for children and young people. In addition, the Government should launch a cross-government Children and Young People's Health Strategy.

¹⁸ UN Convention on the Rights of the Child, *Article 24*, 1989, [https://downloads.unicef.org.uk/wpcontent/uploads/2010/05/UNCRC_PRESS200910web.pdf?_adal_sd=www.unicef.org.uk.1596201781140&_adal_ca=so%3DGoogle%26me%3Dorganic%26ca%3D\(not%2520set\)%26co%3D\(not%2520set\)%26ke%3D\(not%2520set\).1596201781140&_adalcw=1596201701940.1596201781140&_adal_id=c81e8b3c-5d90-4c2a-8664-e19a41aa4324.1596201702.2.1596201702.1596201702.f33b72b6-7b5f-43d2-866a-6f4b1c934d6a.1596201781140&_ga=2.150541621.2039377374.1596201701-617473251.1593801505&_gac=1.182790418.1593801514.EAlaIQobChMljkWot2x6gIVU-3tCh1nUwtxEAAYASAAEgJNofD_BwE](https://downloads.unicef.org.uk/wpcontent/uploads/2010/05/UNCRC_PRESS200910web.pdf?_adal_sd=www.unicef.org.uk.1596201781140&_adal_ca=so%3DGoogle%26me%3Dorganic%26ca%3D(not%2520set)%26co%3D(not%2520set)%26ke%3D(not%2520set).1596201781140&_adalcw=1596201701940.1596201781140&_adal_id=c81e8b3c-5d90-4c2a-8664-e19a41aa4324.1596201702.2.1596201702.1596201702.f33b72b6-7b5f-43d2-866a-6f4b1c934d6a.1596201781140&_ga=2.150541621.2039377374.1596201701-617473251.1593801505&_gac=1.182790418.1593801514.EAlaIQobChMljkWot2x6gIVU-3tCh1nUwtxEAAYASAAEgJNofD_BwE)

- Further research into the impact of indoor and outdoor air pollution on children must be supported to ensure that evidence base for their detrimental impact on young people is as strong as it is for adults.
- The UK Government should resource local authorities to provide safer environments for children and young people to walk, play and travel. This would enable local authorities to expand 20mph zones within urban areas, create a greater number of cycle and pedestrian zones, and monitor their population's exposure to air pollution.

For further information please contact:

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