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Children are especially vulnerable to air pollution

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Rapid Response:

Re: Air pollution is the largest environmental risk to public health and children are especially vulnerable

Dear Editor

The Royal College of Physicians of Edinburgh, Air Pollution Working group, read with interest Dr Kingdon's article entitled 'Air pollution is the largest environmental risk to public health and children are especially vulnerable' [1]. This resonates strongly with our group. Our children are our future, yet we do not know if they are protected against transport emissions when at school.

Children are among the most susceptible to air pollution as their cells rapidly divide (1,2). Brain (3,4), lung (5,6) heart (7), hormone systems and immunity can all be harmed by air pollution, and hospital admissions for children increase on days of high pollution (10). Children spend a higher proportion of time outdoors and are at greater risk of exposure to ambient air pollutants. There is a correlation between areas of high deprivation and poor air quality in children (5) exacerbating preexisting health inequalities.

Schools are often sited near busy roads and traffic junctions. Air quality is worsened by the 'school run' and idling engines (6). It is essential our schoolchildren are protected from air pollution in playgrounds and on roads surrounding the school, with considerable health and other benefits to be gained, including educational attainment.

It is thus imperative to establish these levels, as often the introduction of small changes in traffic movement round schools can effect improvement in air pollution and thus health (8). We were surprised to discover, however, that in Scotland's cities very few schools were near enough to a networked air quality monitor; too few to draw any conclusions about the safety of our school children.

In conclusion, there is overwhelming evidence that air pollution harms the health of children. What is missing in the UK is data on air pollutant levels at near-school areas and whether pollutants are present at levels above those recommended. As mitigation can produce significant health benefits, we recommend, and are campaigning for, the introduction of air quality monitoring round all city schools as a matter of priority.

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