New research has estimated how the air pollution levels recorded in Bristol impact health in the city. The study estimates how current levels of pollution increase hospital admission rates, the risks of developing cancer, and worsen child health in the city. This study adds to the already compelling case for urgent and ambitious action to address air pollution in Bristol.

**KEY POINTS**

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**HOW BRISTOL’S AIR POLLUTION IMPACTS OUR HEALTH AND PUTS A STRAIN ON THE NHS**

New research conducted by the Environmental Research Group at Kings College London has quantified the likely impacts air pollution in Bristol on a range of important health conditions including heart attacks, hospitalisations for stroke and emergency asthma admissions amongst adults and children.

The research suggests that each year in Bristol higher air pollution days (compared to low pollution days) are linked to:

- **4 more cardiac arrests outside hospital**
- **An extra 5 children being hospitalised with asthma**
- **Sending up to 14 more people to hospital for stroke, and 68 more people for respiratory disease**

**THE REPORT ESTIMATES THAT, IN BRISTOL:**

- Your child is 4.4% more likely to be hospitalised for asthma on days with high nitrogen dioxide pollution compared to days with lower air pollution.
- Roadside air pollution in the city stunts lung growth in children by 5.3%.
- Living near busy roads in Bristol may contribute to a 3.0% greater chance of reduced lung function in children, and to an 8.0% greater chance of coronary heart disease.

**IF AIR POLLUTION IN BRISTOL WAS CUT BY JUST ONE FIFTH, EVERY YEAR, WE WOULD SEE:**

- 199 fewer children suffering with low lung function
- 4 fewer babies being born underweight each year
- 114 fewer children suffering with a chest infection and 94 fewer asthmatic children suffering with bronchitic symptoms (cough and phlegm)
- a decrease the risk of coronary heart disease by around 3.1% which would result in 62 fewer cases a year
- a decrease lung cancer cases by around 5.9% - 18 fewer cases every year
The statements ‘personalise’ the health effects of air pollution. They have been developed from calculations based on three components:


2. A numerical relationship between the air pollutant concentration ('exposure') and the change in the health outcome in question. This numerical relationship is termed the ‘concentration response function’ or CRF, and has been drawn from a comprehensive review of air pollution research. It usually takes the form of a percentage increase in adverse health impacts over the baseline rate.

3. This percentage change in the health outcome due to pollutant exposure is applied to the baseline rate of the outcome or disease. The result of this is used to develop quantitative statements giving the effect of a given exposure to an air pollutant on a particular health outcome or disease.

For a detailed description of methods, please consult the full King’s College Report.