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**KEY POINTS**

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New research conducted by the Environmental Research Group at Kings College London has quantified the likely impacts air pollution in Birmingham 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 in Birmingham, each year, higher air pollution days (compared to low pollution days) are linked to:

- **12 MORE CARDIAC ARRESTS OUTSIDE HOSPITAL**
- **AN EXTRA 15 CHILDREN BEING HOSPITALISED WITH ASTHMA**
- **SENDING UP TO 42 MORE PEOPLE TO HOSPITAL FOR STROKE, AND 238 MORE PEOPLE FOR RESPIRATORY DISEASE**

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

- Each year on average, higher air pollution days in Birmingham can send up to 103 more people to hospital for COPD
- Roadside air pollution in the city stunts lung growth in children by 7.7%

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

- 659 fewer children suffering with low lung function
- 11 fewer babies being born underweight each year
- 371 fewer children suffering with a chest infection and 328 fewer asthmatic children suffering with bronchitic symptoms (cough and phlegm)
- A decrease the risk of coronary heart disease by around 3.3% - 165 fewer cases a year
- A decrease lung cancer cases by around 6.4% - 50 fewer cases every year
These 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.