New research conducted by the Environmental Research Group at King’s College London has quantified the likely impacts of air pollution in Nottingham 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 Nottingham, higher air pollution days (compared to low pollution days) are linked to:

- 3 More Cardiac Arrests outside hospital
- An Extra 5 Children Being Hospitalised with Asthma
- Sending up to 8 More People to Hospital for Stroke, and 57 More People for Respiratory Disease

The report estimates that, in Nottingham:

- Your child is 5.1% 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 2.8%

If air pollution in Nottingham was cut by just one fifth, every year we would see:

- 175 fewer children suffering with low lung function
- 3 fewer babies being born underweight
- 97 fewer children suffering with a chest infection and 84 fewer asthmatic children suffering with bronchitic symptoms (cough and phlegm)
- A decrease in the risk of coronary heart disease by around 3.7% which would result in 52 fewer cases a year
- A decrease in lung cancer cases by around 6.7%, which would result in 15 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.

This research was conducted by the Environmental Research Group at King’s College London and was funded by the Clean Air Fund.

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