

News story: New tool calculates NHS and social care costs of air pollution

The health and social care costs of air pollution in England could reach £5.3 billion by 2035 unless action is taken, according to a new report and cost tool published today by Public Health England (PHE). Last year, the costs were £42.88 million. Local authorities will be able to use it to inform their policies to improve air quality.

The report and tool are part of the wider government strategy to reduce air pollution which was announced today, Tuesday 22 May 2018, by the Department for Environment, Food and Rural Affairs.

Working with the UK Health Forum and Imperial College London, PHE's report and tool highlight the potential costs to the NHS and social care system of exposure to Particulate Matter (PM2.5) and Nitrogen Dioxide (NO2), 2 of the pollutants to be dealt with under the government strategy.

The costs are for diseases where there is a strong association with air pollution: coronary heart disease; stroke; lung cancer; and child asthma.

When diseases with weaker evidence of association are also added, including chronic obstructive pulmonary disease; diabetes; low birth weight; lung cancer (for NO2 only); and dementia, the costs were £157 million in 2017 and could reach £18.6 billion by 2035.

There could be around 2.5 million new cases of all of the above diseases by 2035 if current air pollution levels persist.

A relatively small reduction in the population's exposure to PM2.5 and NO2 could lead to a significant reduction in costs. Modelling was carried out at the national level and for 2 local authorities, Lambeth and South Lakeland, which represent areas with high and low levels of PM2.5 and NO2 respectively.

If there was a 1µg/m3 reduction in PM2.5 and NO2 over a year, relative to the 2015 baseline, the cumulative number of new cases of all diseases and NHS and social care costs avoided could be:

Years	Region	1µg/m3 reduction in PM2.5	1µg/m3 reduction in PM2.5	1µg/m3 reduction in NO2	1µg/m3 reduction in NO2
		New cases avoided (per 100,000)	Costs avoided (£m/100,000)	New cases avoided (per 100,000)	Costs avoided (£m/100,000)
2015 to 2025	England	146	0.72	32	0.19
	Lambeth	153	0.72	28	0.15

Years	Region	1µg/m3 reduction in PM2.5	1µg/m3 reduction in PM2.5	1µg/m3 reduction in NO2	1µg/m3 reduction in NO2
		New cases avoided (per 100,000)	Costs avoided (£m/100,000)	New cases avoided (per 100,000)	Costs avoided (£m/100,000)
2015 to 2035	South Lakeland	119	0.6	33	0.3
	England	314	2.42	59	0.6
	Lambeth	310	2.35	57	0.54
	South Lakeland	204	2.05	70	0.75

All local authorities can use the tool to estimate the impact on health and the savings to the NHS and social care under different air pollution scenarios.

Professor Paul Cosford, Medical Director and Director of Health Protection at PHE, said:

Air pollution is a growing threat to the public's health, evidence shows it has a strong causal association with coronary heart disease, stroke, lung cancer and childhood asthma.

PHE has created a new air pollution tool so, for the first time, local authorities can calculate the cost of air pollution, providing impetus to act to improve air quality.

Local authorities are ideally placed to introduce policies to minimise air pollution, especially given the legal air quality powers they have to tackle it locally. The areas where they can act – health, housing, transport, education, local economies, green space and quality of life – are all relevant to local government policy.

Until now, there has been no simple way for local authorities to estimate the potential savings to the public purse from taking local action on PM2.5 and NO2. This tool may help local authorities make a more fully developed economic and financial case for reducing emissions.

The government's Clean Air Strategy provides further support to local authorities.