

Air Quality: Impact on Health

Southwark Health and Wellbeing Board Meeting

Place Team

Southwark Public Health Division

Dec 2020

Air quality is a high priority due to its impact on a range of policy areas, including health

INTRODUCTION

Air quality has become a high priority across the world

- A wealth of new evidence in recent years has shown that poor air quality affects a wide range of policy areas, including health, putting air quality on the agenda globally

The impact of air pollution on health costs* the UK more than £20bn every year¹

- This is just under 16% of the current annual NHS budget

Air pollution affects everyone who lives and works in London

- The majority of pollutants within London are now at concentrations below national air quality standards however, levels of nitrogen dioxide (NO₂) and particulate matter (PM₁₀) continue to exceed these standards in some areas and locations

Tackling air quality contributes to a wide range of outcomes

- Measures to improve air quality not only improve health and reduce health inequalities, they also bring benefits for the economy, wider environment and assist with climate change adaptation & mitigation

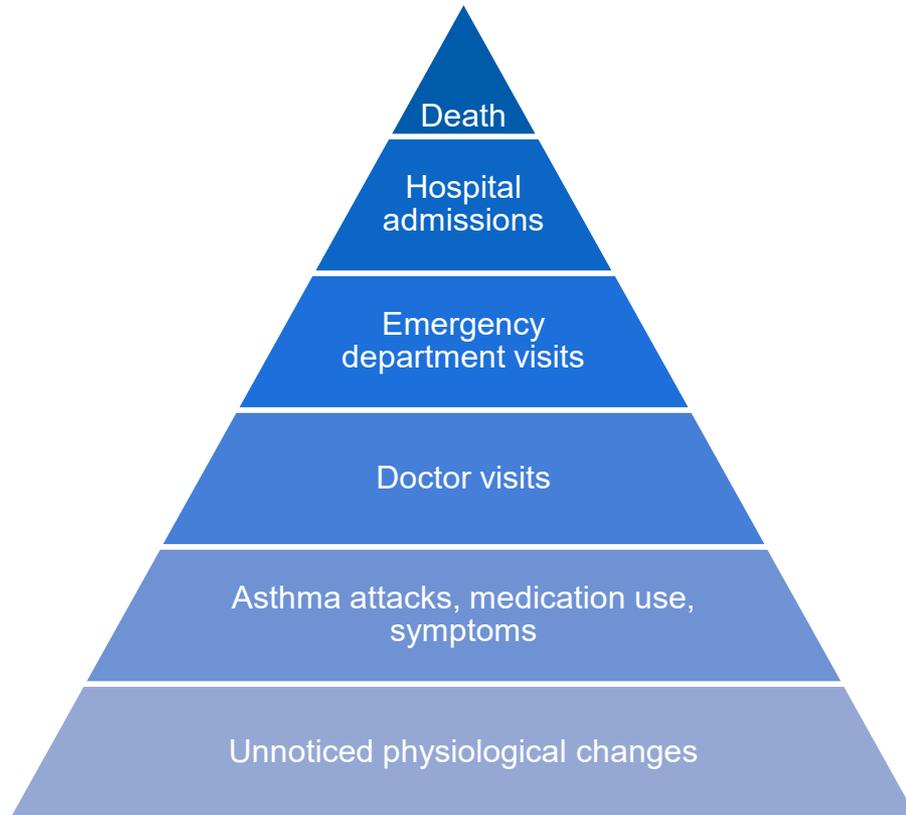
*This includes costs to society and business, health services, illness and premature death

References

1. RCPCH. [Every breath we take: the lifelong impact of air pollution](#) 2016

People's health may be affected by poor air quality even if they never experience any noticeable effects

INTRODUCTION



Exposure to poor air quality is associated with both ill health and premature death¹

- Numerous studies, replicated across the world, agree that breathing air of poor quality impacts on people's health
- Air pollution can cause short-term symptoms and long-term effects
- Many people will not notice the effects of air pollution on their health, however, long-term exposure can contribute to the development of chronic diseases and can increase the risk of respiratory illness
- Children, older people and those with heart and respiratory conditions are most affected and are considered vulnerable groups
- Any improvement in air quality will have positive health consequences, however, it is recognised that there is no absolutely 'safe' level of particulates²

References

1. WHO. [Quantification of the Health Effects of Exposure to Air Pollution](#) 2000
2. WHO. Review of evidence on health aspects of air pollution – REVIHAAP Project: [technical report](#) 2013

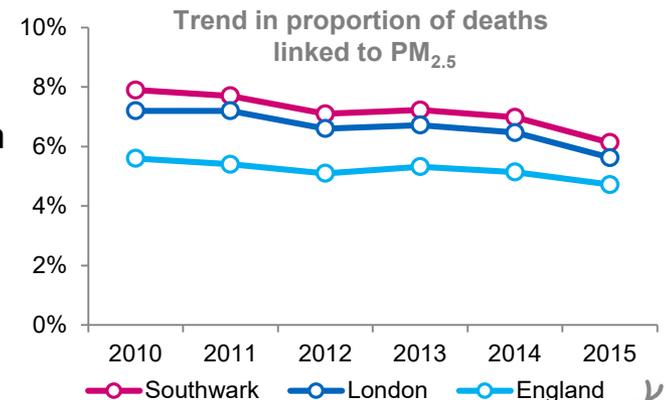
Air pollution is a significant risk factor for mortality and ill-health in Southwark

THE LOCAL PICTURE



There is a strong body of evidence showing that exposure to high levels of air pollution can have a range of adverse health effects

- Air pollution can exacerbate respiratory conditions, such as asthma and chronic respiratory disease, and increase the risk of cardiovascular events like heart attacks and stroke
- Long-term exposure can also increase the risk of premature mortality and PM_{2.5} is thought to have an effect equivalent to over 80 deaths per year in Southwark, comparable to the number of deaths caused by lung cancer
- The effect of PM_{2.5} on mortality is higher in Southwark than in London or England, but is on the decrease
- There is no other health data available locally



More than 1 in 4 people in Southwark are at an age that makes them more vulnerable to poor air quality

THE LOCAL PICTURE

Children

- There are 55,500 children in Southwark aged 0-14 and this is projected to increase to 62,000 by the year 2026
- Children are more vulnerable to air pollution because their lungs are still developing and, for their size, they breathe more air each minute than an adult
- There are relatively high numbers of children living in some of our air quality focus areas, namely around Peckham, Old Kent Road and Camberwell Road

Older people

- There are 25,000 older people in Southwark aged 65+ and this is projected to increase to 33,000 by the year 2026, an increase of a third
- Older people are more vulnerable to air pollution because their lungs are less elastic and therefore less able to filter out polluted air
- Older people are also more likely to have a long term condition that can be exacerbated by air pollution
- While older people tend to live in less polluted areas of the borough, some do live on or close to main roads and air quality focus areas, particularly around Elephant & Castle and Peckham

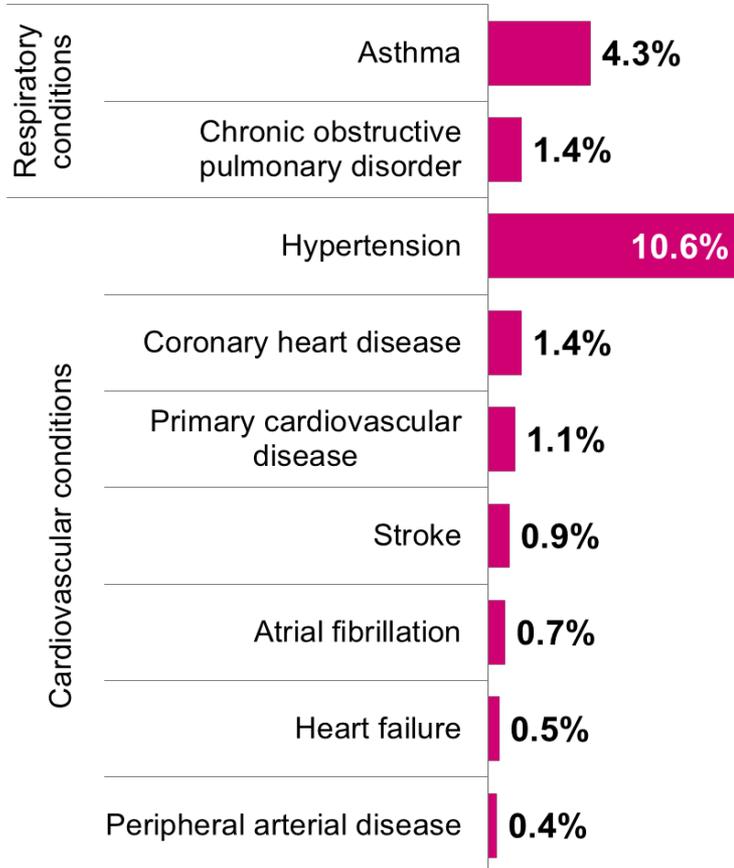
Data source

ONS mid-year population estimates 2016

ONS population projections 2016

1 in 25 people in Southwark have asthma, making them more vulnerable to poor air quality

THE LOCAL PICTURE



Over 4% of people registered with a GP in Southwark have diagnosed asthma

- 13,600 patients in Southwark have an asthma diagnosis and 4,400 patients have a diagnosis of chronic obstructive pulmonary disorder
- People with long term conditions are vulnerable to air pollution because their conditions are likely to be exacerbated by the air pollutants entering their bodies
- We know which GP practices these people are registered with but we don't know where they live, or if they are Southwark residents
- Some of these people could also be in a vulnerable age group

There is inconclusive evidence of the link between air pollution and COVID-19 mortality

AIR QUALITY AND COVID-19

Whilst there have been a plethora of studies exploring whether air pollution increases the risk of COVID-19 mortality, the current evidence is inconclusive.

- The Scientific Advisory Group for Emergencies (SAGE) have endorsed the ONS analysis of air pollution in England and COVID-19 mortality
 - ONS analysis showed that long-term exposure to air pollution may correlate to increased COVID-19 mortality rates, but that the association found is much smaller than in other studies
 - We can't infer causation, as there are a number of confounding factors that are uncontrolled – in particular, location, socio-economic factors and ethnicity
- Many studies looking into air quality and COVID-19 have not been peer reviewed due to the initial rush to publish results. We should be tentative about drawing conclusions too early as there are still many gaps in the evidence base.

References

1. SAGE. 2020. Minutes from 50th meeting.
2. ONS. 2020. Coronavirus (COVID-19) related mortality rates and the effects of air pollution in England
3. SAQN. 2020. Coordinating research action: Air Quality and COVID-19

Find out more at
southwark.gov.uk/publichealth

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