Briefing: health inequalities and lung disease

This briefing from the British Lung Foundation explains the strong links between lung disease, deprivation and health inequalities. It outlines the main environmental drivers of lung disease - smoking, outdoor and indoor air pollution, and occupational hazards – and explains how socio-economic status affects exposure and outcomes.

It makes the case that, given tackling health inequalities is a UK government and NHS England priority, the need for a respiratory taskforce to drive improvements is overwhelming.

Overview

Health inequalities refer to preventable differences in health outcomes across different population groups such as geographical, race ethnicity, sexual orientation or socioeconomic status.[1]

In England, people living in the poorest areas will die, on average, seven years earlier than those in the richest areas. The gap in disability-free life expectancy is even greater at 13 years. The landmark report *Fair Society, Healthy Lives* by Sir Michael Marmot makes the case that reducing health inequalities is an urgent matter of social justice.[2]

The BLF's *Battle for Breath* – the report of a three year epidemiological study into lung disease – is one of various publications that have explored the link between lung disease and levels of social deprivation, identifying inequalities in a range of lung conditions.[3] Overarching observations show:

- Lung cancer and COPD are considerably more common in the most deprived communities, due to their association with smoking.
- Outdoor air pollution, which is generally higher in deprived urban areas, is known to worsen symptoms of lung disease and can cause lung disease to develop - diesel is a classified carcinogen.
- Around 80% of mesothelioma cases occur in men. Those most at risk are people who have been exposed to asbestos while working in heavy industry or the armed forces.

What factors drive inequalities in lung health?

Smoking

Smoking is a considerable causal factor of lung disease and premature mortality. Of all the hospital admissions for respiratory problems in 2014/15, 23% were directly attributable to smoking.[4] Of the 115,000 lung disease deaths each year,[5] up to 58,500 are attributable to smoking. This includes 86% of all lung cancer deaths,[6] and 77% of all COPD deaths[7]. Around 16.9% of adults in England smoke.[8]

Smoking is generally more common amongst the most deprived communities:

- 26.5% of routine and manual workers smoke, compared to 11.7% of managerial workers[9]

- 23% of those earning under £10,000 are smokers, compared with 11% of those earning £40,000+[10]
- Smoking accounted for a 32%-35% difference in the death rates between the lowest and highest socio-economic groups in a London based study group over a period of 24 years[11]
- People born into a family of smokers are more likely to smoke[12]

Smoking is more common amongst people with mental health problem:

- Smoking rates amongst those with a mental health problem are around 40%[13]
- 31.3% of people with a mental illness smoke 15+ cigarettes a day, with 23.3% smoking 1-14 a day[14]

Certain ethnic groups are more likely to smoke than others. Smoking is comparatively prevalent amongst Black Caribbean (37%) and Bangladeshi (36%) men and White English women (26%).[15] Similarly, smoking rates amongst gay and lesbian people are higher than the general population at 24.2% (2014).[16]

People who are homeless are more likely to smoke. Groundswell's audit of the respiratory health of homeless people – *Room to Breathe* – found that 85% of homeless people smoke.[17]

Smoking rates in prisons – with prisoners highly likely to have experienced poverty and mental health problems - are extremely high, at around 80%.[18]

Outdoor air pollution

Outdoor air pollution from vehicle emissions is linked with various lung conditions in adults and children.[19] Both nitrogen dioxide (NO_2) and particulate matter (PM) can cause or worsen lung disease.

There is an established link between the prevalence and impact of outdoor air pollution and socio-economic deprivation:

- 66% of man-made carcinogens are emitted from the 10% most deprived English city wards.[20]
- Deprived communities have less access to green spaces, and receive four times less spending on transport needs than the richest 10%.[21]
- Less wealthy people are less likely to eat diets rich in antioxidant nutrients which protect against the harmful effects of air pollution, due to a more limited access to a healthy diet.[22]

Other population groups are disproportionately affected by air pollution - older people are more vulnerable to air pollution, particularly older women due physiological differences.[23] Evidence also shows that black people are disproportionately likely to breathe illegal levels of air pollution in London, almost certainly linked to living in the more deprived areas.[24]

Housing

Poor housing is linked to respiratory disease. Mould spores and dust mites, which can lead to asthma and general respiratory irritation,[25] are most common in damper, less well constructed houses.[26] This impacts on people who are on the lowest incomes and have the least ability to afford a better home.

- 24% of people in the lowest income quintile live in a privately rented home, of which 28% do not meet the decent homes standard.[27]
- In comparison, 18% of owner occupiers and 14% of social renters live in homes failing the standard.[28]
- Poor housing conditions can leave children more likely to experience respiratory problems now and in the future. Children living in overcrowded and unfit conditions are more likely to experience respiratory problems. This means losing sleep, restricted physical activity, and missing school.[29]
- Up to one in three people who grow up in overcrowded homes have respiratory problems as adults.[30]

People in the most acute housing need are particularly at risk. Homeless people are likely to have very poor respiratory health: 64% reported having had chest infections, 20% reported having asthma and 4.9% had diagnosed COPD – the latter two are double the national average.[31]

Occupational hazards

Occupational hazards contribute to respiratory problems, notably COPD, mesothelioma and lung cancer.[32] Workers with fewer skills and qualifications are more likely to be exposed to these hazards:

- 11,000 new cases of breathing or lung problems are caused or made worse by work each year.[33]
- In 2014/15, 464,000 working days were lost due to work-related lung problems, with lung disease accounting for 4% of the total number of sick days for all occupational illnesses.[34]
- 15% of COPD cases result of workplace exposure to dust and chemicals.[35]
- Average annual direct costs of occupational asthma in the UK per case range from £530 to £715, with indirect costs ranging from £1,525 to £1,685.[36]

Why is tackling health inequalities important?

Tackling health inequalities has been identified as a priority by both the UK government and by NHS England. Fighting against the "burning injustice" that those born poor will die earlier than others was outlined by Prime Minister Theresa May as one of her very first policy priorities.[37]

Tackling health inequalities is an important part of NHS England's current policy objectives:

- The Five Year Forward View outlined ambitions to close the health and wellbeing and the care and quality gaps.[38] It said that failing to "get serious" about prevention will result in widening health inequalities and stalling life expectancies, while costing billions. It also said that an inability to drive down variations in care quality will lead to unacceptable variations in outcomes.

It is also an important part of the NHS Outcomes Framework, used to hold NHS England to account:

- Domain one covers the prevention of people from dying prematurely, with a specific indicator on the potential years of life lost from causes considered amendable to healthcare (adults and children), as well as an indicator on the mortality rate of under 7s from respiratory disease.[39]

How a taskforce would reduce health inequalities

We are calling for the establishment of an **independent respiratory health taskforce for England**. This taskforce should develop a strategy for a national, joined up approach for improving respiratory health and reducing the inequalities in respiratory outcomes.

We have already seen the establishment of taskforces for cancer and mental health, which have led to positive outcomes. For cancer, this has included setting up 'Cancer Alliance's across England to plan local cancer services and design care pathways. For mental health, it has led to £1 billion extra funding.

Given that lung disease is one of the top three killer diseases in the UK and mortality rates have not moved in 15 years, we believe it is time to take a similar approach to respiratory health.

This taskforce, made up of representatives from the NHS, respiratory health charities and others, would succeed in driving improvements. It would:

- Allow for a detailed review of the evidence on the determinants of poor lung health – including health inequalities – and set out paths to rectify these.
- Be inclusive and representative of a wide range of stakeholders, providing involvement and allowing stakeholders to feel ownership of the outcomes.
- Be time and resource effective for NHS England and the Government, as secretariat functions will be provided by third sector members of the taskforce.
- Allow NHS England to consider the taskforce's recommendations alongside its policy priorities – notably the Five Year Forward View and its successor - and incorporate them as appropriate.

- Analyse, collate and drive forward the best elements of existing strategies, notably to review and refresh the Department of Health's 2011 COPD and asthma outcomes strategy.

Support our campaign

We would greatly appreciate it if you could take forward the following activity on our behalf. We are happy to provide you with any materials or further information.

- Write to Health Secretary Jeremy Hunt or NHS England chief executive Simon Stevens to stress the need for a respiratory taskforce
- Table oral or written parliamentary questions to the Health Secretary
- Secure or support a debate in Parliament on respiratory health and the potential taskforce

For further information, please contact:

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