

How Can We Protect Scotland's Most Vulnerable Lungs from Air Pollution?

Scotland



**British
Lung**
Foundation

Agenda

- Why tackling respiratory health needs to be a priority
- How this is linked with Air Pollution
- What policy Interventions we need to prevent and protect

Clean air and healthy lungs

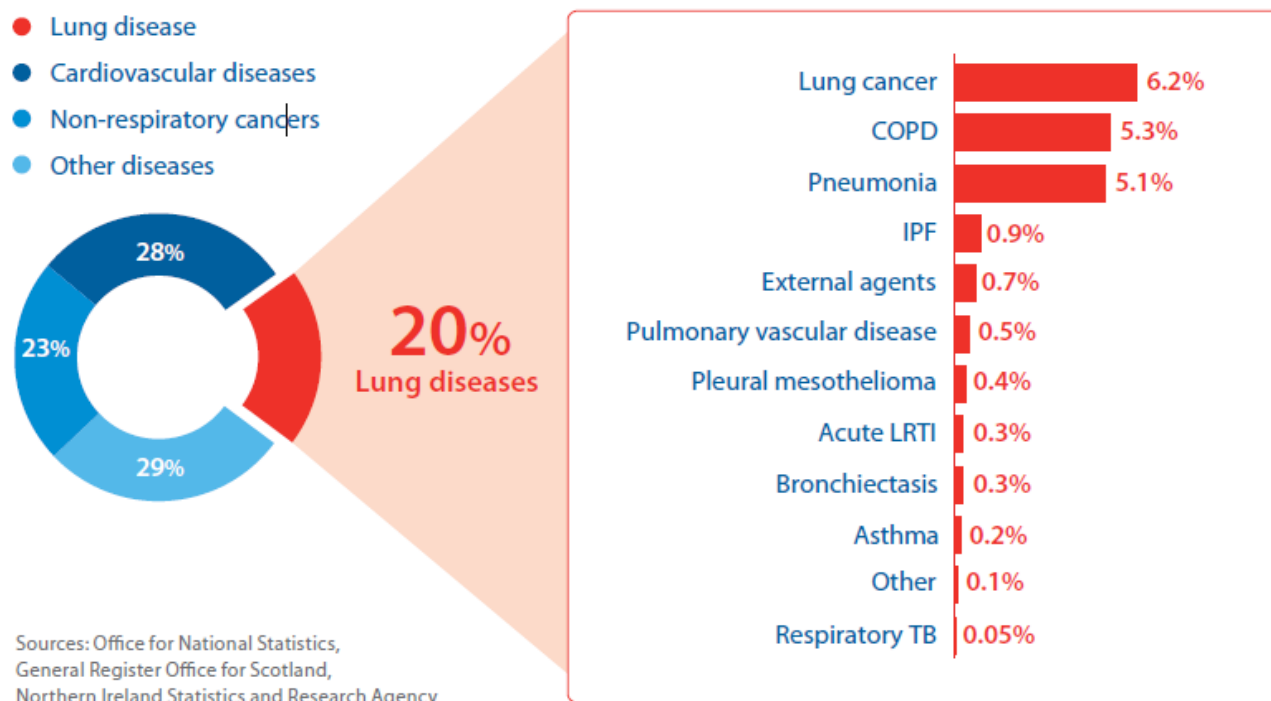
- We are the nation's lung charity. We provide hope, help and a voice.





Key findings: mortality UK

- 115,000 deaths each year = one person every five minutes.
- 20% of all UK deaths due to lung disease.
- Similar number of annual lung disease deaths now vs 2004 (BTS)... deaths from heart disease went down by 15% from 2008 to 2012 (26,000 fewer deaths).



National Records of Scotland

Whilst the focus in recent years has been on cancer and circulatory diseases as the main causes of death, the proportion of deaths **from respiratory system diseases** has **increased** from 11 per cent of all deaths in 1980-82 to 13 per cent of all deaths in 2015.

In 2015 the number of deaths from respiratory system diseases (7,669) was **greater** than the number from coronary heart disease (7,142) for the first time. *[NB – if we include lung cancer in the figure for chest-related deaths that figure rises to 20%,)*

Scotland - incidence/prevalence

Lifetime prevalence - absolute numbers (left) and per 100,000 figures (right)

	2012		2011		2010		2009		2008	
Asthma	640,000	11,958	630,000	11,762	620,000	11,652	620,000	11,658	610,000	11,489
Bronchiectasis	15,000	287	14,000	270	13,000	255	13,000	248	12,000	236
COPD	120,000	2,369	130,000	2,319	120,000	2,274	120,000	2,252	120,000	2,217
Lung cancer	9,600	188	10,000	187	10,000	187	10,000	188	9,600	184
IPF	3,300	67	3,700	65	3,500	63	3,500	63	3,500	64
Mesothelioma	330	6	340	6	450	7	360	6	360	6

Yearly incidence - absolute numbers (left) and per 100,000 figures (right)

	2012		2011		2010		2009		2008	
Asthma	16,000	315	15,000	296	15,000	302	16,000	319	16,000	316
Bronchiectasis	1,900	36	1,700	32	1,400	26	1,200	23	1,000	20
COPD	12,000	238	13,000	240	12,000	232	12,000	221	11,000	222
Lung cancer	3,700	73	3,700	69	4,100	77	4,000	76	3,700	72
IPF	290	16	220	10	230	11	230	11	260	10
Mesothelioma	240	4	85	2	250	4	165	3	150	3

Prevalence of specific conditions

- Several lung conditions are far more common than previously published figures suggest.
- **COPD:** Over 40% more people are living with chronic obstructive pulmonary disease (COPD) than reported by the Department of Health (1.2 million vs 835,000).
- **IPF:** Idiopathic pulmonary fibrosis (IPF) is more than twice as common as National Institute for Health and Clinical Excellence (NICE) states in its official guidance (50 per 100,000 vs 15-25 per 100,000 prevalence rate)
- **Bronchiectasis:** Bronchiectasis is over four times more common than NHS figures suggest (210,000 vs 50,000).
- Previously under-reported/under-diagnosed? Rapid true increase?

Health inequalities

- Lung disease is a major factor in health inequalities:
- **COPD** is 2.5 times as common in the most deprived 20% of society compared to the least deprived 20%.
- **Lung cancer** is almost twice as common in the most deprived 20% of society compared to the least deprived 20%.
- **Asthma** is over 10% more common in the most deprived 20% of society compared to the least deprived 20%.
- In contrast, **bronchiectasis** and **sarcoidosis** appear to be more common in the least deprived communities. Better diagnosis / longer survival in these groups?



Recommendations

We are calling for policy-makers to take action in :

1. Establish taskforce for lung health in Scotland, to produce a five year strategy for tackling lung disease
2. Make respiratory one of the mandated priority areas to integrate care better and reduce lung health inequalities
3. Support the establishment of a national respiratory intelligence network and improve data recording, collection and analysis
4. Put respiratory disease research funding on an equal footing with cancer and cardiovascular research funding
5. Invest in prevention, including tackling smoking, obesity, physical inactivity and air pollution

A Changing World



How does it impact our lung health?

- **Short-term:** Irritates breathing, causes exacerbations for people with lung conditions
- **Long-term:** Increases risk of asthma, lung cancer and COPD. Reduces children's lung growth and development.

Growing lungs need clean air

- Reduces lung growth and can worsen asthma.
- Three children with asthma in every classroom in the UK.
- Only 10 schools in Scotland have monitors within 10m of them.
- Over 100k children attend schools in Edinburgh, Falkirk and Rutherglen, which have all been identified as areas with illegal and unsafe levels of NO₂. Only 3 schools in these areas have pollution monitors.



It's a public health crisis

- At least 2,000 people die early each year in Scotland
- 9/10 lung patients struggle to breathe during pollution episodes
- Costs the UK £27 billion a year
- 38 Air Quality Management Areas in Scotland - up from 32 last year
- 10 Scottish Local Authorities breached legal limits for NO₂ in 2015
- The UK government has been taken to court - twice!

What we would like to see in Scotland

- Carefully-designed clean air zones that use cleaner public transport, active travel and other measures to improve air quality, without penalising the most vulnerable;
- Independent real-world emissions testing for all vehicles, to inform public pollution-reduction strategies and private vehicle purchases;
- Measuring and reporting on air pollution near schools to protect children's lungs and supporting head teachers and local authorities to minimise the impact on children
- Improved pollution monitoring, awareness campaigns and public health alerts so that people living in Scotland- particularly the most vulnerable-are aware of local pollution levels and how to minimise the impact of their health.

Final Message

Improving Air Quality in Scotland would have widespread positive impacts on the nation's lung health, particularly those most at risk.

Making changes now could help future proof the respiratory health of Scotland for generations to come.

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