

Levelling up Lung Health

How Improving lung health will
achieve levelling up by delivering a
healthier, fairer society

24 May 2022



Summary



Levelling up means giving everyone the opportunity to flourish. It means people everywhere living longer and more fulfilling lives, and benefitting from sustained rises in living standards and well-being.¹



The government was elected in 2019 on a mission to “unite and level up” the country.² This was a welcome promise to tackle the deep-rooted place-based inequalities that can be found across the UK in all areas of public life, including educational attainment, pay, labour market access, transport accessibility and health outcomes.

After much disruption from the COVID-19 pandemic, the government has finally set out what it means by “levelling up” in its white paper, *Levelling Up the UK*, published in February 2022.³

This paper sets out what the levelling up white paper means for people with a lung condition, and what Asthma + Lung UK want to see from policy makers to truly show they are serious about levelling up lung health in this country.

Lung health and levelling up

Lung disease is the third biggest killer in the UK, responsible for 20% of all deaths per year.⁴ The burden of illness, however, is not shared equally amongst us all. Those living in the poorest neighbourhoods are twice as likely to develop a lung condition, and seven times as likely to die from one than those in the richest areas.⁵ This is partly because poorer communities live in areas which tend to be more polluted by toxic air, with more people living in damp, poor quality housing and with more people who smoke than those living in more affluent areas.

A key factor in overcoming these inequalities, and achieving the missions set out in the white paper, is in tackling prevention: cleaning up our toxic air and reducing smoking rates. Levelling up must also deliver more equitable access to diagnosis and care, and increase spending on respiratory research across the UK.

Levelling up will not succeed without focusing on lung health

The Levelling Up White Paper contains 12 bold national levelling up missions which will be "given status in law" to help overcome inequalities by 2030.⁶

If we improve lung health, we will level up the country. Lung health is central to achieving the following levelling up missions:

Levelling up mission	Link to lung health
By 2030, the gap in Healthy Life Expectancy (HLE) between local areas where it is highest and lowest will have narrowed, and by 2035 HLE will rise by 5 years	Healthy life expectancy is intricately linked to lung health. It is impacted by smoking and air pollution, whilst many people with a lung condition are forced to live many years in ill health due to a late or poor diagnosis and a lack of access to care.
By 2030, domestic public investment in Research & Development outside the Greater South East will increase by at least 40% and at least one third over the Spending Review period, with that additional government funding seeking to leverage at least twice as much private sector investment over the long term to stimulate innovation and productivity growth.	Respiratory research currently only receives a small fraction of public funding for health research and development. In addition, the 20 worst performing CCGs for asthma admissions are located in the North of England. There is therefore a prime opportunity to increase investment in respiratory research, with areas outside the Greater South East most likely to benefit from new treatments, vaccines and diagnostic technologies.
By 2030, local public transport connectivity across the country will be significantly closer to the standards of London, with improved services, simpler fares and integrated ticketing.	Improving local transport is vital for improving air quality. It will also support people with lung conditions to access their communities, without being forced to rely on private cars.
By 2030, well-being will have improved in every area of the UK, with the gap between top performing and other areas closing.	Poor lung health, increased air pollution and smoking are all linked to poor wellbeing and lower mental health outcomes.

Factors driving poor lung health and inequity

Smoking

Action on smoking is likely to be the single most effective method of achieving the health mission. Half the difference in life expectancy between the richest and poorest in society is due to smoking.⁷ Current smokers are five times more likely to need social care support at home, with this care needed on average 10 years earlier than non-smokers.⁸ Without strong, concerted action to reduce smoking rates the government's ambition to add 5 years healthy life expectancy by 2035 will not be achieved.

Work to cut smoking rates will also help achieve the ambition to improve wellbeing, with smokers at greater risk of social isolation and loneliness as they age. Stopping smoking has been associated with improvements in mental health.⁹ In addition, action on tobacco is associated with improved productivity, a key levelling up ambition; smokers earn around 7% less than non-smokers as a result of their dependency on tobacco, and productivity losses associated with smoking cost the UK just over £14 billion per year.¹⁰

Research into health inequalities consistently finds that “the scope for reducing health inequalities related to social position... is limited unless many smokers in lower social positions stop smoking,”¹¹ and that “reducing smoking prevalence among the deprived population could have a disproportionately large effect on population health and an important impact on health inequalities.”¹² This makes it clear that smoking cessation work, targeted at those groups with the highest smoking rates and lowest incomes, is essential to the levelling up agenda.

Air pollution

Air pollution is responsible for 36,000 premature deaths each year and exacerbates lung conditions, causing symptoms to flare up for Chronic Obstructive Pulmonary Disease (COPD) or asthma attacks that can lead to hospitalisation.¹³ Tackling toxic air will play a key role in preventing early deaths and improving prospects for people with a lung condition.

The kind of significant reduction in air pollution levels that are required to protect our health will only be possible if we integrate levelling up and air pollution reduction policies – redesigning our heavily populated towns and cities to reduce the number of vehicles on the road and changing behaviours to reduce the levels of wood being burnt in people's homes.

Road traffic is one of the largest sources of air pollution, accounting for 28% of all NOx emissions, and 13% of all fine particulate matter (PM2.5) emissions in 2020 (two of the deadliest air pollutants for human health).¹⁴ Similarly, across the UK, burning wood, coal and other material in open fires or on wood-burning stoves accounts for 25% of PM2.5 emissions, with the use of wood specifically accounting for 17%.¹⁵ This was the second highest single source of PM2.5 emissions in 2020.¹⁶

Tackling these sources of air pollution will disproportionately impact some of the most deprived communities in England. 85% of people living in areas with illegal levels of air pollution make up the poorest 20% of the UK

population. Reducing air pollution from road transport will have a disproportionately positive impact on the health of some of the poorest in the country.¹⁷

Improving access to equitable diagnosis and care

Even before the COVID-19 pandemic, poor lung health cost us £11 billion every year, with £10 billion falling directly on the NHS and patients.¹⁸ The disproportionate burden of lung conditions on poorer communities is likely to mean that the cost to the NHS weighs more heavily in these poorer areas too, as well as disproportionate burden on wider services such as education and social care. Furthermore, the top 20 CCG areas with the most respiratory emergency admissions can be found in some of the most deprived places in the North of England.¹⁹

People who have difficulty breathing often wait years for a formal diagnosis, or never receive one at all. In part this is because society doesn't always take breathlessness seriously or consider lung problems as worthy of attention as other diseases. But even once in contact with healthcare professionals, diagnosis is still too slow. Our patient surveys have found too much time passes between appointments and people are left waiting months for key tests. What is more, few advances have been made in the way lung conditions are detected and tests are often inaccurate, invasive, unreliable, or costly.

A delayed or inaccurate diagnosis can mean people don't get the care they need, or are put on unnecessary treatments, that may cause them harm and place significant cost on the NHS. Sometimes they may be too ill for treatment to be effective by the time they are finally diagnosed. For people with aggressive lung disease, a delayed diagnosis means they can't make the most of the little time they have left.

This was the case even before the pandemic placed huge additional strain on respiratory services. Over the past two years, many thousands of people have watched their health deteriorate while they wait for respiratory care, and diagnoses of lung conditions have plummeted due to a halt in testing.

For instance, diagnosis of new COPD cases was down by over 50% in 2020, a decline much higher than for comparable conditions.²⁰ There are no indications that diagnostic testing has improved since then, meaning that almost 100,000 people are likely to have missed out on a COPD diagnosis during 2020 and 2021.²¹ And those living with Asthma face similar barriers to accessing care, with just 30% of patients receiving basic care in 2021, the lowest level since 2015.²² This means that an estimated 3.8 million (of the 5.4 million) people with asthma are not receiving the most basic standards of care. Similarly, almost half (43.9%) of those patients admitted to hospital with an asthma attack had no follow up care provided at all.²³

The 100 new Community Diagnostic Centres set out in the recent budget, and confirmed in the Levelling Up white paper, will help to improve diagnosis and treatment. However, they will take years to be operational in many parts of the country and action to improve diagnosis is needed now.

Establishing the UK as world leaders in respiratory research

If we're really going to improve lung health, we need major investment in respiratory research and development. We cannot improve lung health without new research to better understand how illness affects the lungs, different ways of diagnosing conditions simply and effectively and developing new treatments that are accessible to all.

Chronic Respiratory Diseases account for 6% of the impact of all disease in the UK.²⁴ Yet public and charitable spend on respiratory disease in the UK amounts to a mere 1.8%, or £47m of the £2.56bn spent on health research.²⁵

The lack of research funding for respiratory illness means that many of the best medicines are inaccessible for many. Those who are more deprived are being referred for new treatments less than those who are more affluent. And this issue is getting worse. Last year (2020/21), there was 4% difference between those living with asthma on the lowest and highest income being referred to new treatments, and new data suggests that this

year (2021/22) that difference is likely to be as large as 7%.²⁶

Not only is this failure to invest holding back major progress on fighting these diseases in every community across the country, it is a missed opportunity to encourage greater investment into the UK economy. The global respiratory drug market is set to grow by 5% annually between now and 2025 and the UK is in a unique position to benefit from this, due to our world-leading universities and highly competitive life sciences sector.²⁷ However, unless we see a significant increase in respiratory research funding as a result of levelling up, this opportunity will not be realised.

The solutions

Asthma + Lung UK have set out five stress tests that we will be holding the government to account on over the next eight years, as it seeks to level up the UK by 2030.

	By the end of 2022	By 2025	By 2027	By 2030
Smoking reduction	<p>A firm commitment to implement a polluter pays levy on the tobacco industry, with funding from this going towards stop smoking services and mass media campaigns.</p> <p>Smoking cessation becomes part of the NHS Core20PLUS5 health inequalities programme, and comprehensive smoking cessation support for everyone attending hospital.</p> <p>A comprehensive Tobacco Control Plan that expands the use of Very Brief Advice for Smoking Cessation across primary care, raises the age of sale from 18 to 21, and outlines clear interim targets working towards a 5% smoking rate by 2030.</p>	<p>At least £266m in funding from the industry levy put towards stop smoking services and mass media smoking cessation campaigns such as Stoptober.</p> <p>The age of sale increased to 21.</p> <p>Screening and offer of stop smoking support for everyone interacting with the NHS.</p> <p>Smoking rates at 9%.</p>	<p>Continued, ringfenced funding for smoking cessation work a local and national level.</p> <p>Smoking rates at 7%.</p>	<p>A national smoking rate of 5%.</p> <p>New targets set to drive down smoking rates amongst those groups with persistently high rates.</p>

	By the end of 2022	By 2025	By 2027	By 2030
Reducing hospitalisations from air pollution exposure	<p>Work with NHSE to analyse the number of asthma and COPD hospitalisations each year caused by spikes in air pollution.</p> <p>Publish a national road pricing strategy.</p>	<p>All planned Clean Air Zones to have been implemented without delay.</p> <p>Areas with NO₂ levels above WHO limits to pilot road pricing schemes in line with road pricing strategy.</p>	<p>No major city to have annual NO₂ levels above the annual and daily WHO guidelines of 10µg/m³ and 25µg/m³ respectively</p> <p>Road pricing to be rolled out.</p> <p>A clear reduction in hospitalisations from lung condition exacerbations caused by air pollution.</p>	<p>20% fewer hospitalisations from lung condition exacerbations as a result of spikes in air pollution.</p>

	By the end of 2022	By 2025	By 2027	By 2030
Ambient air quality	<p>Deliver ambitious PM2.5 targets in line with World Health Organization (WHO) interim targets of 10µg/m³ to be achieved by 2030 at the latest.</p> <p>Commitment to a public health awareness raising campaign</p>	<p>A new air quality alerts system that protects everyone who is vulnerable to the impacts of air pollution.</p> <p>A significant reduction in PM2.5 emissions from domestic combustion to below 10% of annual emissions.</p>	<p>Deliver a national monitoring system that covers every community in the UK, providing free access to air pollution data for everyone.</p>	<p>Average annual PM2.5 levels to be no more than 10µg/m³ in any community across the country.</p>

	By the end of 2022	By 2025	By 2027	By 2030
Access to care and improvement in diagnostics	<p>Commission Asthma + Lung UK to work with NHSE to offer care and support from point of diagnosis.</p> <p>Every ICS should publish a pre-diagnosis breathlessness pathway implementation plan by Autumn 2022 which outlines how they will implement the new pre-diagnosis breathlessness pathway, and how this will integrate with Community Diagnostic Centres once they are implemented in their local area.</p>	<p>100 Community Diagnostic Centres rolled out and staffed.</p> <p>Comprehensive and consistent local and national data collection on the time to diagnosis and time to start treatment and receive a support package for all major lung conditions.</p> <p>Advanced plans and funding for the next tranche of CDCs.</p> <p>90% of those who present with breathlessness receive the diagnosis and treatment they need within four weeks of presentation.</p> <p>75% of those with a respiratory diagnosis receive a written, co-developed, self-management plan.</p>	<p>Everyone who presents with breathlessness receives the diagnosis and treatment they need within six months of presentation.</p> <p>90% of those who are newly diagnosed with asthma and COPD receive information and support on the care and management of their condition at the point of diagnosis.</p> <p>75% of people with a long-term lung condition take up their annual flu jab, and all those eligible for a free flu jab prioritised for any future respiratory vaccines.</p> <p>Emergency admissions for lung conditions, for both adults and children, will have be reduced by 20% in the 20 worst affected areas through improving diagnosis and treatment and tackling the underlying causes of ill health.</p> <p>Everyone with a respiratory diagnosis receives a written, co-developed, self-management plan.</p> <p>Measures set out above reduce unplanned hospital admissions for COPD by 30% and visits to A&E for asthma by 40% each year.</p>	<p>Three Community Diagnostic Centres per one million of the population across England, equivalent to 160 CDCs.</p>

	By the end of 2022	By 2025	By 2027	By 2030
Respiratory R&D	Office for Life Sciences to identify and secure commitments from industry to match public sector investment to transform respiratory R&D in the North of England.	<p>New multi-year Life Sciences Sector Deal – funded by NIHR/UKRI and industry - for a Northern Respiratory Science Base comprising virtual centres for Experimental Lung Medicine, Diagnosis, Management and Prevention.</p> <p>Respiratory diagnostics embedded in Community Diagnostic Centres – and a potential gateway to trial recruitment.</p> <p>Our Future Health – supported by public and private funding –</p> <p>to transform understanding of respiratory disease through emphasis on recruitment in areas of greatest health inequality.</p>	<p>£150m per year for respiratory research and innovation.</p> <p>Northern Respiratory Science Base operationalised</p> <p>Transformation in diagnostics leads to vast number of previously undiagnosed who could be recruited to trials across the virtual centres</p>	<p>The Northern Respiratory Science Base is responsible for the development of new, globally marketable diagnostic tools, drug targets and digital forms of management and prevention.</p> <p>Growth in life sciences industry in the North, increasing high-wage employment and economic growth. Improvement in respiratory outcomes, reducing burden on NHS, and raising productivity.</p>

References

1. Department of Levelling Up Housing and Communities (2022) **Levelling Up the UK: Executive Summary**. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052046/Executive_Summary.pdf (accessed May 2022)
2. Johnson B (2019) General election: Boris Johnson - 'We are going to unite and level up'. Available at: <https://www.bbc.co.uk/news/av/election-2019-50787601> (accessed May 2022)
3. Department of Levelling Up Housing and Communities (2022) **Levelling Up the UK: Executive Summary**. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1052046/Executive_Summary.pdf (accessed May 2022)
4. British Lung Foundation (2019) **Estimating the economic burden of respiratory illness in the UK**. Available at: http://allcatsrgrey.org.uk/wp/wpfb-file/pc-1601_-_economic_burden_report_final_8cdaba2a-589a-4a49-bd14-f45d66167795-pdf/ (accessed May 2022)
5. Asthma + Lung UK (2022) **Fighting for Breath**. Available at: https://www.asthmaandlung.org.uk/wp-content/uploads/2022/02/ALUK_Fighting_for_Breath_Strategy_to_2027_report_v6.pdf (accessed May 2022)
6. DLUHC (2022) **Government unveils levelling up plan that will transform UK**. Available at: <https://www.gov.uk/government/news/government-unveils-levelling-up-plan-that-will-transform-uk> (accessed May 2022)
7. Jha P, Peto R, Zatonski W, Boreham J, Jarvis MJ, Lopez AD. **Social inequalities in male mortality, and in male mortality from smoking: indirect estimation from national death rates in England and Wales, Poland, and North America**. *The Lancet*. 2006 Jul 29;368(9533):367-70 (accessed May 2022)
8. Action on Smoking and Health (2022) A third of smoking households in England are living in poverty with rates highest in the North <https://ash.org.uk/media-and-news/press-releases-media-and-news/a-third-of-smoking-households-in-england-are-living-in-poverty-with-rates-highest-in-the-north/> (Accessed Feb 2022)
9. Taylor GM, Lindson N, Farley A, Leinberger-Jabari A, Sawyer K, Te Water Naudé R, Theodoulou A, King N, Burke C, Aveyard P. Smoking cessation for improving mental health. *Cochrane Database Syst Rev*. 2021 Mar 9;3(3):CD013522. doi: 10.1002/14651858.CD013522.pub2. PMID: 33687070; PMCID: PMC8121093. <https://pubmed.ncbi.nlm.nih.gov/33687070/> (accessed May 2022)
10. Reed, H (2020) The impact of smoking history on employment prospects, earnings and productivity: an analysis using UK panel data. *Landman Economics*: <https://ash.org.uk/wp-content/uploads/2020/08/LandmanEconomics-smoking-employment-earnings-technical-report.pdf> (Accessed Feb 2022)
11. Gruer L, Hart C L, Gordon D S, Watt G C M. Effect of tobacco smoking on survival of men and women by social position: a 28 year cohort study *BMJ* 2009; 338 :b480 doi:10.1136/bmj.b480 <https://www.bmj.com/content/338/bmj.b480> (accessed May 2022)
12. Barbara Eberth, Damilola Olajide, Peter Craig, Anne Ludbrook, Smoking-related disease risk, area deprivation and health behaviours, *Journal of Public Health*, Volume 36, Issue 1, March 2014, Pages 72–80, <https://doi.org/10.1093/pubmed/fdt031> (accessed May 2022)
13. COMEAP (2018) **Associations of long-term average concentrations of nitrogen dioxide with mortality**. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/734799/COMEAP_NO2_Report.pdf (accessed May 2022)
14. Asthma + Lung UK (2021) **Clear the Air**. Available at https://www.blf.org.uk/sites/default/files/Clear_the_air_report_v2.pdf (accessed May 2022)
15. DEFRA (2021) **Emissions of air pollutants in the UK – Particular matter (PM10 and PM2.5)**. Available at: <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-particulate-matter-pm10-and-pm25>. (accessed May 2022)
16. Ibid.
17. AUK-BLF (2021) **Clear the Air**. Available at: https://www.blf.org.uk/sites/default/files/Clear_the_air_report_v2.pdf (accessed May 2022)
18. British Lung Foundation (2016) **Estimating the economic burden of respiratory illness in the UK**. Available at: https://cdn.shopify.com/s/files/1/0221/4446/files/PC-1601_-_Economic_burden_report_FINAL_8cdaba2a-589a-4a49-bd14-f45d66167795.pdf?1309501094450848169&_ga=2.149660468.382159675.1649232753-981671646.1646040662 (accessed

May 2022)

19. OHID (2021) **InHale – Interactive Health Atlas of Lung Conditions in England**. Available at: [Inhale - INteractive Health Atlas of Lung conditions in England - Data - PHE](#) (accessed May 2022)
20. Asthma + Lung UK (2021) **Failing on the Fundamentals**. Available at: https://cdn.shopify.com/s/files/1/0221/4446/files/COPD_survey.pdf?v=1636977618&_ga=2.73754450.1146749312.1651594790-981671646.1646040662 (accessed May 2022)
21. Ibid.
22. Asthma + Lung UK (2022) **Fighting Back: Transforming Asthma care in the UK**. Available at: https://www.blf.org.uk/sites/default/files/Fighting%20back_V3.pdf (accessed May 2022)
23. Ibid.
24. The Lancet (2017) **Chronic respiratory disease-attributable deaths and DALYs per 100 000 individuals and as a proportion of all-cause deaths and DALYs, respectively, across all super regions, 2017**. Available at: <https://www.thelancet.com/action/showFullTableHTML?isHtml=true&tableId=tbl2&pii=S2213-2600%2820%2930105-3> (Accessed May 2022)
25. HRCs online (2018) **UK Health Research Analysis 2018**. Available at: <https://hrcsonline.net/reports/analysis-reports/uk-health-research-analysis-2018/> (accessed May 2022)
26. Asthma and Lung UK (2020) **Care in Crisis**. Available at: https://www.asthma.org.uk/7318608a/contentassets/3fd2bcc5be6a41f68b3280969eedbec3/aas-2020_2a-1.pdf (accessed May 2022)
27. The Business Research Company (2021) **Respiratory Diseases Drugs Global Market Report 2021: COVID-19 Implications and Growth to 2030** . Available at: https://www.researchandmarkets.com/reports/5292719/respiratory-diseases-drugs-global-market-report?utm_source=CI&utm_medium=PressRelease&utm_code=m8w6ng&utm_campaign=1507342+-Global+Respiratory+Diseases+Drugs+Market+Report+2021%3a+Market+is+Expected+to+Decline+from+%2490.32+Billion+in+2020+to+%2479.82+Billion+in+2021+-+Long-term+Forecast+to+2025+%26+2030&utm_exec=chdo54prd (accessed May 2022)



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