

Early Detection, Better Outcomes



Neighbourhood
Respiratory
Diagnostics



November 2025

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Executive summary

Breathlessness. Cough. Wheeze. Phlegm. Tight chest. Respiratory symptoms are common and often not condition-specific, making diagnosing respiratory conditions harder than other conditions. But treating respiratory conditions requires early and accurate diagnosis. Inequitable provisioning and variability in commissioning approaches to respiratory diagnostics across the NHS are driving poor respiratory outcomes: respiratory conditions are the leading driver of hospital admissions and winter NHS pressures.¹ This is costly for the NHS, and respiratory patients deserve better.

Not only would sufficient and long-term funding for respiratory diagnostics improve the care that patients would receive, but it would also offer financial benefit to the NHS. The cost of lung conditions to the UK economy is substantial with an estimated annual economic cost of £15 billion from just asthma and COPD. By rolling out diagnostic tests to ensure early and accurate diagnosis for all patients with asthma and COPD, savings could be made across²:

- Reduced exacerbations and therefore emergency and acute admissions, many of these during the winter.
- Reduced incorrect and ineffective prescriptions and associated pharmaceutical costs caused by misdiagnosis.
- Increased referral into education and self-management programmes such as pulmonary rehabilitation (PR) which prevents decline in lung function and condition worsening. The expansion of PR was found to result in over £163 million of direct NHS savings related to reduced exacerbations.
- Reduced expenditure on comorbidities caused by inappropriate oral corticosteroids use.
- Annual quality-adjusted life year (QALY) savings of £166 million.

Analysis by PwC in Asthma + Lung UK's *Investing in Breath* report found that if fractional exhaled nitric oxide (FeNO), a test that measures the levels of nitric oxide in your breath, were made available to all GPs, its use could save **£148 million** by optimising asthma treatment. And an uptake in spirometry testing in primary care to just 40% of eligible patients could result in annual economic benefits of **£137 million** and a reduction of 25,000 bed days occupied per year.³

The new Neighbourhood Health Service model, laid out in the 10 Year Health Plan for England, offers a solution to reform respiratory diagnostics. By offering services to a wider population than any singular primary care setting can, neighbourhood ways of working can bring efficient and effective services closer to patients when they need it.

To reap these rewards, governments and the health service across the UK need to rethink how respiratory diagnostics are delivered. We are calling for:

- ➔ **Health boards and trusts across the UK to establish neighbourhood level respiratory diagnostic hubs, which will deliver respiratory diagnostic tests in primary care, and ensure appropriate follow up and referral of these patients.**
- ➔ **Health boards and trusts across the UK must provide a Locally Enhanced Service, or similar arrangement, on a sustainable three year funding cycle, to support the establishment of respiratory diagnostic hubs.**
- ➔ **Health boards and trusts across the UK should collect and publish data on the provision of respiratory diagnostics, which should be used by governments to hold systems to account.**

Figure 1. A table outlining some of the most common respiratory diagnostic tests, their availability in primary care, and costs.

Test	Used to diagnose:	Available in primary care across the UK?	Cost per test*	Sustainable standardised funding?
Spirometry – a lung function test that measures forced expiratory volume in one second (FEV1) and forced vital capacity (FVC)	COPD ^{4,5,6} Asthma ⁷⁸	In England, 9/42 ICBs have spirometry capacity to meet the demand of new referrals and to address any backlog. 30/42 ICBs do not have capacity to meet the demand of new referrals, let alone the significant backlog built up since the pandemic. 6/42 do not commission spirometry testing in primary care at all. ⁹ This picture is similar across health boards and trusts in Wales and Scotland too. ^{10,11} In Northern Ireland spirometry has traditionally been delivered in secondary care with some people waiting over 78 weeks! ¹²	Up to £56.88 per test ¹³	No
Fractional exhaled Nitric Oxide (FeNO) – a biomarker test that measures the levels of nitric oxide in someone’s breath	Asthma ¹⁴	In England, ~53% of Primary care networks had access to FeNO testing. ¹⁵ In Wales, only 39.8% of children with asthma had a record of any objective measurement. ¹⁶ Data to assess FeNO provision is not available for Scotland or Northern Ireland.	£22.21 ¹⁷	No
Blood eosinophil levels – a blood test is used to indicate eosinophilic inflammation	Asthma ¹⁸	Routinely available in primary care.	£7.66 (adults) £8.07 (CYP) ¹⁹	Yes
A range of other diagnostic tests such as peak flow monitoring, lung function testing, and imaging like chest X-ray and CT scanning are important diagnostic tools in evaluating structural lung diseases. However, these tests are not the focus of this report, either because they are already widely available in primary care (e.g. blood tests and peak flow), or they are not delivered routinely in primary care (imaging and lung function testing). They should, however, be considered in broader patient care pathways when front line tests are inconclusive.				
*In real world circumstances the cost per test will naturally vary depending on the environment it is delivered in. ICB level commissioning oversight will provide a broader, long term view that shows where these tests are delivered at lower margins in some areas makes up for the higher cost in other areas.				

**Respiratory
conditions
are the
leading driver
of hospital
admissions
and winter NHS
pressures.**



Case study

Sarah Jones – Severe asthma

Sarah is 34 and lives with severe asthma. She was diagnosed in August 2024, after becoming incredibly ill with her asthma and contracting pneumonia. After multiple near-death hospital admissions, her asthma diagnosis was changed to severe atopic eosinophilic asthma.

“I was first diagnosed with asthma when I was 16, but my breathing has got progressively worse over the years. Then in October 2023, I contracted pneumonia and was dangerously ill and ended up in critical care. Since then, I’ve had eight emergency hospital admissions.”

Sarah faced challenges at getting the diagnosis she needed to access the medication that would keep her alive.

“I was lucky that my GP and asthma nurse advocated for me: they wrote to the severe asthma centre in Hull and told them that my asthma would kill me if I wasn’t given biologics, and to get biologics, I needed a severe asthma diagnosis. There was real resistance from secondary care, but I was eventually given the diagnosis I needed, and I started taking biologics in January 2025.”

Despite her primary care team providing exceptional care, it still took Sarah 10 months to get an accurate diagnosis.

“Diagnosis needs to be quick and easy, and it shouldn’t be determined by the availability of respiratory consultants or the cost of biologic treatments. These drugs can literally save lives.” Because of this delay to getting her the

right diagnosis, Sarah has faced repeated emergency admissions, and her severe asthma has a huge impact on her life:

“Each flare up has been progressively worse. The last time I was in hospital, I was told I was an hour away from intubation. I have ended up in an intensive care unit a couple of times, and on one occasion, I was blue lit from my doctor’s surgery to hospital. I’ve also ended up in resus within five minutes of arriving at hospital.”

“Pollen, hot and cold weather, perfumes, certain foods, mould, damp, dust are all triggers for me. I can’t go out when it’s too hot or too cold as it’s guaranteed to set my asthma off. I used to be incredibly active - I used to swim a lot, and I enjoyed concerts and holidays, and taking my little girl to the park, but now I can’t do any of that. It has completely turned my life upside down.”

Sarah wants to see better care for people living with a lung condition:

“I am pretty appalled at the way respiratory health is managed in this country – it’s not joined up or urgent, and I fear that so many people like me are just falling through the cracks.”

Issues

Funding

Spirometry and FeNO are not nationally funded and local arrangements are needed to ensure their universal provision. The ad hoc local approach that is currently taken for respiratory diagnostics means these tests are often not being commissioned, and even where funding is available, if it does not cover *all* associated costs of doing these tests it is unlikely to be performed. Funding must cover the cost of the test itself, as well as all peripheral costs to ensure the test is being done by the right people, at the right place, and primary care is not out-of-pocket by providing this vital respiratory service. Funding provided for a respiratory diagnostics service must cover equipment, consumables, workforce of a suitable level to perform and interpret the tests, staff training (including training fees and time), case finding, and accessible facilities. If services are not properly commissioned, they are not delivered, but this does not mean they are not needed.

To ensure any funding mechanism is sustainable it must consider the variables that exist within the health system. We are aware that there are disparities in the time taken to test and interpret results in different places. We also know that tariffs for tests can vary greatly in different locations and environments, as costs vary by different settings. Ideally a standardised test delivery time and unified tariff between primary and secondary care (including community diagnostic centres (CDCs)) should be established to avoid unwarranted variation. There is potential economic advantage to performing multiple tests during the same appointment, which could save time and reduce overall costs; while multiple tests will not be needed to diagnose all patients, for those that do require further investigation, multiple test appointments, or 'one-stop-shop' delivery of the breathlessness pathway will be more efficient.

Where ICBs in England succeed in providing good respiratory diagnostics, these tests are usually commissioned as locally enhanced services (LESSs), and ICBs have to identify a local funding stream for this. But many areas are struggling to enact, implement, or support this, meaning respiratory patients are being left behind. The lack of secure, long-term funding is a key part of this problem and an obstacle to sustainable provision even where ICBs are performing well. Pre-pandemic, this localised arrangement resulted in variable outcomes, but there was more available money within primary care. In the far more financially restricted post-pandemic NHS, these local arrangements have become more difficult to establish, especially as the provision of respiratory diagnostics is not guaranteed to be delivered by any oversight framework or regulator. ICBs face no penalties for not providing these essential tests. As a result, patients miss out and the NHS suffers avoidable costs and emergency admissions.

We know that those planning services in primary care find an unpredictable budget incredibly hard, and having to renew services every financial year is a roadblock to sustained investment in early and accurate diagnostics. Sustainability is key; non-recurrent funding makes it hard to plan services, recruit sufficient staff and can end up being more costly.

Various funding models could be used to provide a sustainable respiratory diagnostics budget for primary care.

-  **A universal fund could deliver a standard amount of money for a respiratory diagnostic service ahead of time, covering all associated costs of delivering spirometry and FeNO. This could be designed to account for the variability in the way the tests are delivered in different settings and communities. The value of the universal fund could be capitated i.e. based on the number of patients in a target population, or weighted by the health inequalities faced by a local population to help bridge the gap between the best and worst performing areas. Indeed there is some evidence to show that in England, NHS funding weighted for socioeconomic deprivation is associated with a reduction in mortality inequalities.²⁰**
-  **A payment-per-test model could be used; the cost of each spirometry and FeNO test could be determined to factor in all the associated costs of delivery plus the test itself. This standard tariff for each test delivered, the same for all settings, would disincentivise conducting these tests in more expensive locations, or by more expensive staff, while incentivising efficient delivery.**
-  **Incentive based funding, where providers are financially rewarded for achieving high performance or quality, can be used to supplement core funding, but is not appropriate to fund service delivery. Incentive driven performance can lead to ‘tick box’ culture, which rewards undermining performance and motivation in the long term, though some evidence suggests that socioeconomic inequalities in the quality of primary care narrowed over the years following England’s Quality and Outcomes Framework (QOF) implementation.²¹ Despite this, incentivised frameworks are not sustainable and are vulnerable to changes which can negatively impact the provision of standard services, exemplified by the COPD diagnosis indicators being removed from QOF guidance for 2025/26.²²**

By focusing on respiratory diagnostics, patients will live longer, healthier lives, and the health service will save money^{23,24,25} – it cannot afford *not* to fund improving access to these tests.



In Lancashire and South Cumbria ICB, which covers a huge geographical area and 1.8 million population, we have a Locally Enhanced Service for diagnostics for 2025/26. However, the lack of sustainable funding after 2026 means that patients' care might be compromised and lead to delays in future treatments. This is particularly concerning given high numbers of unplanned hospital admissions and high mortality rates due to lung conditions in our catchment areas.

Sharada Gudur

Asthma + Lung UK Respiratory Champion
Consultant Respiratory Physician



Data paucity

There is a distinct lack of targets for respiratory diagnostic tests across the UK, and even worse data collection, which means it is impossible for the system to understand what resource is required to meet patient need and if the NHS is meeting that need. This is supported by our review of ICS spirometry provision which found that 83% of ICSs did not have any data on the number of referral requests or how many tests had been performed in their area in the past year.²⁶

There is no standardised data collected on the number of patients diagnosed without objective tests, or the number of patients diagnosed with inadequate tests or inadequate interpretation of results, which is particularly important when considering quality assured spirometry provision. We also know that after a pause to spirometry services during the COVID-19 pandemic, there remains a backlog of patients waiting for a test as these services are not being delivered across the UK.^{27,28} But until the number is quantified and published, the system cannot know the need or meet it.

In comparison to other conditions, respiratory diagnostic data seriously lags behind²⁹ (see Figure 2). Cardiovascular data on diagnosis is gathered via QoF. The National Diabetes Audit Programme and NHS-led national surveys form the foundation of diabetes data. And the National Disease Registration Service provides monthly cancer diagnosis data through the Rapid Cancer Registration Data (RCRD) dashboards and is bolstered by the National Cancer Diagnosis Audit. While we have the National Respiratory Audit Programme (NRAP) which constructively compiles data from services in England and Wales, this is not UK wide and does not contain data on primary care diagnostics. Indeed, the joint Department of Health and Social Care, NHS Business Services Authority (NHSBSA), UK Health Security Agency, Office for National Statistics and NHS England consultation on health and social care statistical outputs identified that more respiratory tests need to be included in diagnostics waiting times and activity data.³⁰

Figure 2: A table comparing the availability of three diagnosis data sets across respiratory, cardiovascular, diabetes and cancer³¹

	Number diagnosed	Record of diagnostic tests	Record of who was diagnosed
Respiratory	Not available	Not available	Not available
Cardiovascular	Available	Partially available	Not available
Diabetes	Available	Not available	Available
Cancer	Available	Partially available	Available



Geographical inequalities

Our ICS Respiratory Review found that there are significant geographical inequalities in where patients can access essential respiratory diagnostic tests. There is a rhetoric amongst healthcare professionals that areas that have these tests are 'lucky'. It is highly concerning that being able to offer basic diagnostics is perceived as down to luck rather than systematic planning and funding by those in charge of the health service. Furthermore, where ICBs told us there is not a respiratory clinical lead in an ICB (8/42), or regions where there is no regional respiratory clinical network (2/7),³² it appears that providing these services are reliant on local advocates. Patients accessing the care they need should not be reliant on those managing their ICB to have a vested interest in the topic: this should be provided as standard.

Via surveying, and submitting FOIs to those that did not respond to our ICB survey, we were able to map spirometry provision by ICB across England (see Figure 3). Out of 42 ICBs, six are not commissioning spirometry in primary care. Even out of those that are commissioning spirometry, only nine are providing enough to meet demand.³³ This survey was conducted before the announcement in April 2025 that ICBs have to cut their operating costs by 50% by October 2025.³⁴ While the full impact of this is not yet clear, this will likely have a negative impact on front line respiratory diagnostic services, as management, admin and programme costs are cut,³⁵ including a potential reduction in the number of areas with a dedicated Respiratory Clinical Lead who can champion the need for these tests. Without political clarity and funding allocation changes, geographical inequalities are likely to worsen.





In Hampshire and the Isle of Wight, health inequalities – particularly those linked to deprivation in urban and coastal areas, are contributing to poorer access to diagnostic services, including FeNO testing for both adults and children. These issues, alongside geographical barriers and workforce shortages are causing delays in diagnosis and further widening the gap in health outcomes across the region.

Maria Euron

Asthma + Lung UK Respiratory Champion
Respiratory Nurse Specialist

Association of Respiratory Nurses (ARNS)
diagnostics lead



Case study

South Ayrshire Community Spirometry Service

In January 2025, the South Ayrshire Health and Social Care Partnership (HSCP) launched a new community spirometry service pilot. The aim of this pilot is to help provide easier diagnosis for lung conditions such as COPD within the community, in so doing, reducing unnecessary admissions at Emergency Departments.

Until this pilot, the majority of the population in South Ayrshire did not have any access to spirometry and significant waiting times meant referrals for spirometry were not being accepted. But working in conjunction with the public health team, the HSCP found funding to provide 1,000 investigations in community clinics around South Ayrshire over an 18 month period.

This funding has enabled three machines to be purchased and the recruitment of additional staff from GP practices. With these they are able to offer 12 appointments a week across four locations – two in Ayr, one in Girvan and one in Troon. By working at a neighbourhood level, they are able to provide spirometry to a large population, in an accessible way, and move care out of hospitals and into the community.

GP Practices can refer patients with new onset symptoms suggestive of COPD and also conduct case finding for patients who may have been

clinically diagnosed with COPD during the years of lack of access to spirometry to be referred for investigation.

Results from the pilot so far show around 60% of patients tested show airflow obstruction and all are benefiting from a test that previously there was no route to them having, helping improve the accuracy of diagnosis of COPD and also prompting further investigation for other causes in those with a negative test. There is also no significant waiting time for testing, meaning patients are getting timely and accurate diagnostics, delivered close to their homes.

There are plans to roll out this community spirometry service out across East and North Ayrshire, make the business case for central, recurring funding, and incorporating FeNO testing for asthma in the future.



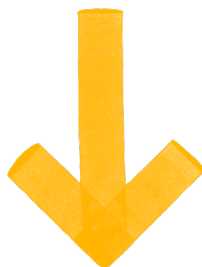
Workforce

NHS staffing data show slight year-on-year increases in the number of respiratory healthcare professionals.³⁶ However, this increase is not keeping pace with demand and there remains an overall shortage of skilled respiratory clinicians.³⁷ As a result, the NHS is not meeting the growing demands for respiratory care and diagnosis, particularly in primary care.

A significant barrier to delivering respiratory diagnostics, particularly spirometry, is the training and accreditation required, which has to be regularly renewed to be valid. Indeed, data shows that barriers to restarting spirometry post-COVID were staff capacity/availability (79%), staff training (70%) and staff accreditation (68%).³⁸ Though initiatives by NHS England to support and fund accreditation, alongside a recent review of the testing process by the Association for Respiratory Technology & Physiology (ARTP), may help mitigate this. Additional training options are available, and services must ensure that appropriate high quality training is both planned for and properly funded.

The retention of skilled staff and the number of vacant posts continue to be key concerns, including for the respiratory diagnostics workforce.³⁹ There is a need to better utilise skills across multidisciplinary teams (MDTs) to ensure patients receive the right test from the right person and efficient diagnostic pathways depend on the right mix of staff. For example, spirometry can be delivered to the patient by a Band 3 physiologist, and an appropriately trained and supported professional (for example, an advanced respiratory nurse practitioner) will interpret the results, confirm a diagnosis and prescribe a treatment plan. Using the appropriate expertise for each aspect of the patient's diagnostic journey makes the service more efficient and cost effective.

As the NHS England Long Term Workforce Plan is updated to support the delivery of the new 10 year plan, the shift towards community-based care will require sufficient staffing in primary care, including professionals trained to deliver both adult and children and young people's (CYP) respiratory diagnostics to ensure there is equitable provision of these tests for both adults and children across the UK.



Case study

London Respiratory Diagnostic Hubs

ICSs across London have established effective Respiratory Diagnostic Hubs which provide access to quality assured respiratory diagnostics for patients with breathlessness and other respiratory symptoms, in the community.

These services are unified by the London Respiratory Diagnostic Hub service specification, while each of the 5 ICBs in London have implemented these services slightly differently over time to ensure they are best serving their local population.

Two broad models are followed:

1. Primary care staff are trained to do diagnostic spirometry, and run diagnostic hubs in the community at PCN or borough level (this approach is used by North West London, North Central London and parts of South West London)
2. Community or integrated respiratory teams, including respiratory physiologists, provide diagnostic spirometry in hubs in the community (this approach is used by parts of North East London, and South East London which includes a clinic in an addiction treatment centre).

These models mean a huge population can be diagnosed in an efficient and cost effective way, and crucially delivered close to people's homes in community setting, while also being well connected to secondary care to ensure the more complex patients can receive their diagnosis within a reasonable distance too.

The hubs have the ability to meet NHS England clinical guidance on wait times, and have also received positive feedback from patients who experience an efficient and effective diagnosis service, close to their home.

Those using integrated working, have been able to provide an equitable service that makes the best use of resources and workforce available. This includes being able to scale the service up or down according to local requirements, facilities, and available staffing.

The hubs have been also set up for patients to be efficiently referred onto relevant services e.g. e.g. community respiratory services including pulmonary rehabilitation, smoking cessation, and breathlessness pathways in some areas the hubs have supported primary care with COPD and asthma patient case finding.

Whilst this model has the potential to deliver effective respiratory diagnostics challenges still remain including the embedding of specialist support to support making a correct diagnosis, data collection and evaluation, and sustainable funding.

This exemplifies how an effective respiratory diagnostics service can be delivered to meet local population needs.

**As many as
750,000 people
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misdiagnosed
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Impact

The lack of respiratory diagnostics across the UK is creating delays, and leaving patients breathless. This is impacting both patient and system outcomes.

Impact on patient experience:

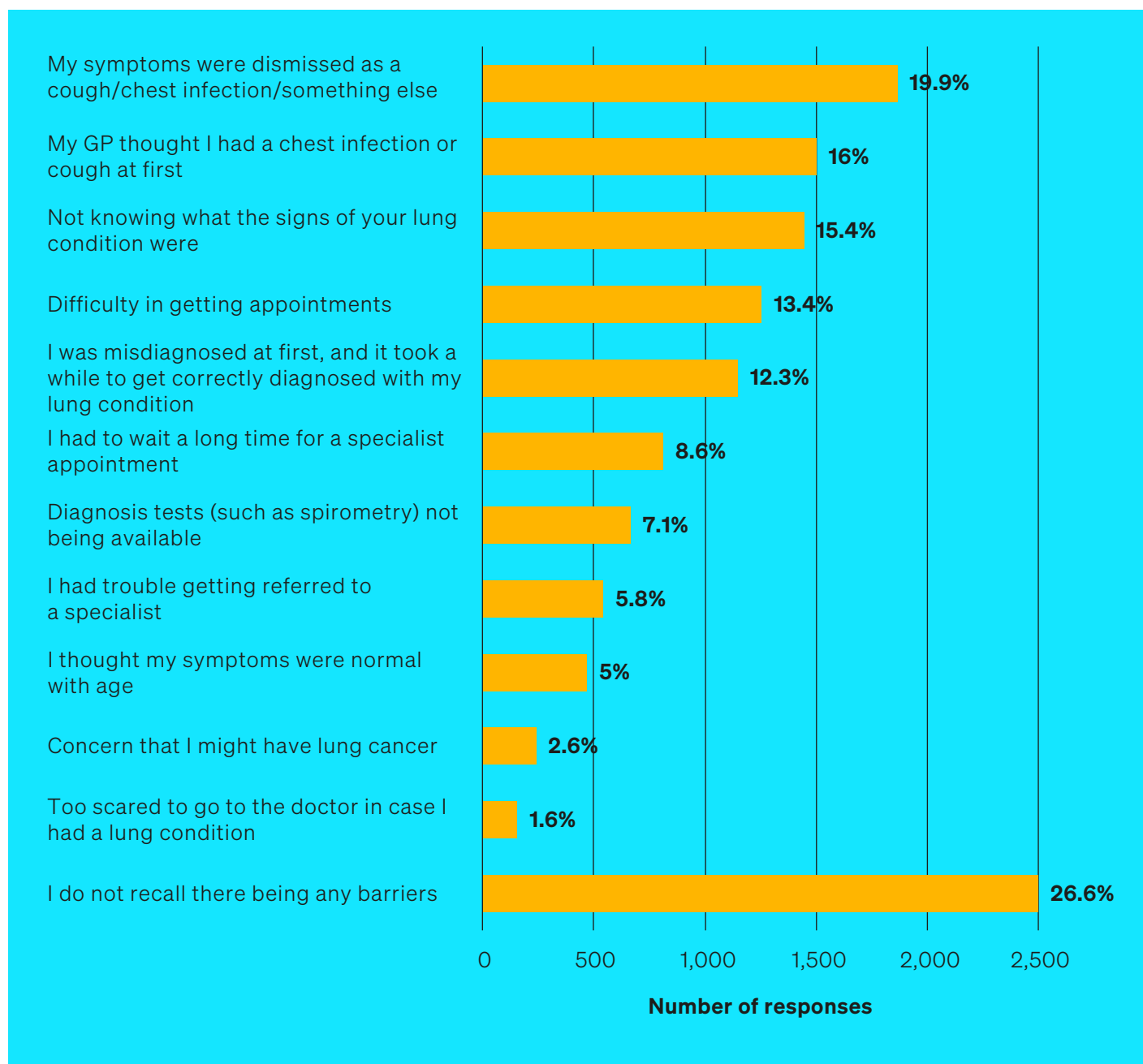
Both under and over diagnosis of respiratory conditions leads to delayed treatment and increases the chance of hospital admission. As many as 750,000 people in England are misdiagnosed with asthma, costing an estimated £132 million every year.⁴⁰ Approximately 2.5 million people are diagnosed with COPD in England, 185,000 in Wales, 241,000 in Scotland and 58,000 in Northern Ireland,⁴¹ but while people do not have access to the diagnostics tests they need, these figures may be significant underestimates. Indeed, the Wales primary care clinical audit report 2021–23 found only 1 in 5 patients with COPD (21.4%) had had spirometry in the last two years.⁴² This is highly concerning as late COPD diagnosis is associated with higher exacerbation rate, comorbidities, and costs.⁴³ This is because untreated, COPD gets progressively worse and causes 30,000 deaths every year in the UK.

Breathlessness brought on by these lung conditions can be terrifying and limit people's ability to get on with their daily lives. It can also mean people stop being as active, so they become more prone to other medical problems such as high blood pressure, heart disease, obesity, and diabetes. There can also be additional harm caused by inappropriate prescribing which is costly for the NHS – prescribing unneeded medication, and tackling subsequent co-morbidities, or worsening symptoms. Indeed, the ARCTIC observational cohort study indicates that late diagnosis results in a 15.7% increase in direct costs per patient over the two years following their COPD diagnosis.⁴⁴

Under-diagnosis leads to people having an untreated condition, putting them at risk of worsening symptoms and potential permanent lung damage. Overdiagnosis means that people are getting medications they do not need, with the chance of negative side effects and at a cost to the NHS.

Asthma + Lung UK's 2025 Life with a Lung Condition survey found that 15.2% of respondents across the UK had waited more than a year between first discussing their symptoms and getting a diagnosis.⁴⁵ This shows that systemic barriers are having an unacceptable impact on getting people's lung conditions diagnosed. Indeed, nearly three quarters (73.4%) reported some barriers to getting a diagnosis, regardless of how long it took.⁴⁶

Figure 4. A bar chart to show the Life with a Lung Condition Survey 2025 responses to the question ‘What were the main barriers to getting a diagnosis?’



Recent qualitative work by King's College London has highlighted that people with COPD found healthcare professionals were very often “too busy” and no one was available to spend time discussing their diagnosis with them. Some reported receiving their diagnosis via the NHS app or in a letter and very few were given a management plan, or directions on how or where to access one.⁴⁷ Most people they spoke to had received no information at diagnosis which exemplifies a lost opportunity within primary care to make every contact count, and is adding inefficiencies into the health system. Not providing the information patients need means they will likely need follow up appointments to get this information, or worse, their condition will deteriorate, and they will need more care, or even emergency care.

It is vital that any diagnostics service tackles this. Diagnostic services should be a ‘one stop shop’ for patients to streamline their experience of care and be as efficient as possible. This means providing all the tests a patient might need to receive an accurate diagnosis, a practitioner who can prescribe them their medication and explain how they need to take it, and referral onto further support (e.g. stop smoking services) or signposting to more information on how to manage their condition (e.g. Asthma + Lung UK resources). The upcoming *Diagnosis Connect* service,⁴⁸ announced in July 2025, alongside the reimagined NHS app laid out in the 10 Year Health Plan,⁴⁹ are key opportunities to bolster diagnosis services, and provide patients with the information they need, using digital tools.

People experiencing factors such as poor health, severe pain, deprivation, and poorly controlled conditions are more likely to face challenges to getting a diagnosis. Our survey found that people who reported numerous uses of emergency services were three times more likely to have faced challenges being referred to a specialist (11% vs. 4%), and twice as likely to have faced long waiting times for specialist appointments (12% vs. 6%) compared to those that had avoided emergency care. We also found that compared to those who were diagnosed within one month, people who waited two or more years for their diagnosis were 40% more likely to have taken time off work for medical appointments (32% vs. 23%), more than twice as likely to have reduced their working hours due to their lung condition (17% vs. 7%), and 75% more likely to have given up work due to their lung condition (28% vs. 16%).⁵⁰

If the government is to tackle economic inactivity due to health, ensuring people can access diagnostics tests when they need them is essential.

People who reported numerous uses of emergency services were three times more likely to have faced challenges being referred to a specialist (11% vs. 4%), and twice as likely to have faced long waiting times for specialist appointments (12% vs. 6%) compared to those that had avoided emergency care.

Case study

Cardiff and Vale University Health Board community spirometry service

In 2023 Cardiff and Vale University Health Board established a community spirometry service as a joint working group of primary and secondary staff, led by the physiology team. The model involved three Band 3 physiologists who, during the first phase, provided spirometry to over 1,400 patients via two centres. The second phase saw the project expanded to four centres that offered spirometry, bronchodilator reversibility and FeNO.

Initial programme evaluation found:

- emergency unit attendance fell
- time in the emergency unit halved whether admitted (26 to 16 hours) or sent home (17 to 8 hours)
- reduced variation in prescribing in practices using the service.

In addition, the clinicians believe that the service contributed to:

- an overall reduction in COPD exacerbations in Cardiff and Vale (compared with all Wales trend)
- dramatic and sustained rises in post bronchodilator FEV1/FVC ratios for patients with new COPD, with Cardiff and Vale improving fastest

- Cardiff and Vale University Health Board prescribing of LAMA, LABA/LAMA & LABA/ICS to COPD patients falling faster than the overall Wales trend.

[NOTE: ICS: Inhaled corticosteroid, LABA: Long acting beta agonist, LAMA: Long acting muscarinic antagonist]

Despite this cost effective service improving outcomes for respiratory patients, the service was put at risk in 2025 due to a recruitment freeze at the health board, which resulted in waiting lists increasing to over 25 weeks, exemplifying the importance of sustainable funding to deliver these impactful diagnostic services.

Financial impact

At a time when the NHS has faced chronic underfunding for over a decade, interventions that result in money saved are vital. Not only would sufficient and long-term funding for respiratory diagnostics improve the care that patients would receive, but it would also offer financial benefit to the NHS. The cost of lung conditions to the UK economy is substantial with an estimated annual economic cost of £15 billion from just asthma and COPD. By rolling out diagnostic tests to ensure early and accurate diagnosis for all patients with asthma and COPD savings could be made across:⁵¹

- **reduced exacerbations and therefore emergency and acute admissions, many of these during the winter.**
- **reduced incorrect and ineffective prescriptions and associated pharmaceutical costs caused by misdiagnosis.**
- **increased referral into education and self-management programmes such as pulmonary rehabilitation which prevents decline in lung function and condition worsening – expansion of PR was found to result in over £163 million of direct NHS savings related to reduced exacerbations.**
- **reduced expenditure on comorbidities caused by inappropriate oral corticosteroids use.**
- **annual QALY savings of £166 million.**

Analysis by PwC in Asthma + Lung UK's *Investing in Breath* report found that if fractional exhaled nitric oxide (FeNO), a test that measures the levels of nitric oxide in your breath, were made available to all GPs, its use could save £148 million by optimising asthma treatment, and an uptake in spirometry testing in primary care to just 40% of eligible patients could result in annual economic benefits of £137 million and a reduction of 25,000 bed days occupied per year.⁵²

Savings caused by commissioning these services locally could benefit both individual practices and the wider system as a whole, including reducing pressure on secondary care and unplanned hospital admissions.

Case study

Armagh and Dungannon respiratory diagnostic hub

The Armagh and Dungannon GP Federation has established an innovative mobile Early Respiratory Diagnostic Hub as bringing the necessary equipment and skills into each of the 23 GP surgeries within the local area.

The Early Respiratory Diagnostic Hub is dedicated to streamlining and enhancing referral pathways for asthma, COPD, and ILD by providing timely, accessible diagnostic testing in primary care for adults suspected of having lung conditions.

This initiative aims to reduce respiratory admissions through quicker diagnoses, leading to improved management of respiratory diseases. By facilitating earlier diagnosis and more appropriate treatments, it seeks to minimise the need for patients to frequently visit GP surgeries, while also ensuring that only those who truly require specialist care are referred to secondary care respiratory clinics.

All 23 GP practices within the Armagh and Dungannon Federation are connected to this hub, which implements new models of care designed to ensure that patients receive the right services at the right time and place. Advanced lung function testing is performed and interpreted by an appropriately qualified clinical physiologist who returns the patient to the referring clinician for ongoing management in primary care.

When the hub was launched, Dr Deirdre Clearly from Armagh and Dungannon GP Federation said:

“The Early Respiratory Diagnostic Hub will improve and shorten existing referral pathways in asthma, COPD and ILD by offering accessible diagnostic testing in primary care in a timely manner to adults suspected of having a lung condition. It will also help to reduce respiratory admissions through quicker diagnosis and therefore better management of respiratory diseases.

“The aim is to reduce the need for people to repeatedly attend clinics by diagnosing patients earlier, treating them more appropriately and identifying those who genuinely need referral into specialist respiratory clinics. All 23 practices in the Federation have commenced screening of their patients to refer to the Hub.”

This model was used by the NI Respiratory Diagnostics in Primary Care Subgroup to develop their NI-wide business case.

**Asthma and
COPD cost the
NHS £9.6 billion
a year.**



Solutions

The changing health system landscape provides opportunities to reinvent respiratory diagnostics for the better.

The new 10 Year Health Plan for England sets out the *Neighbourhood Health Service* as the future model of delivering care. Neighbourhood level working provides a more efficient way of delivering diagnostics in primary care. Primary care is considered to be the most cost-effective location to deliver these tests, while being well placed to deliver care close to a patient's home; something of particular value for patients from rural communities, for those that have a disability or illness, or those without the ability to travel easily. While bringing primary care sites together into 'neighbourhoods' offers better economies of scale which will help to bring the cost of delivering these tests per population comparable across rural and urban populations, reducing the risk of geographical disparities in access to these essential tests. This neighbourhood approach needs to be adopted across all four nations.

While respiratory diagnostics did not receive the attention they need in the 10 Year Health Plan, there is a recognition that earlier diagnosis can support the financial sustainability of the NHS and is essential to helping people manage their condition well. Though the government must learn from under-resourcing previous plans and how this limited their impact: the Scottish Government launched their Respiratory Care Action Plan in 2021 which included a commitment to improving respiratory diagnosis, but the plan has stalled, and funding ended without achieving the change needed.

To deliver an efficient respiratory diagnostics service in primary care:

1

Health boards and trusts across the UK should establish neighbourhood level respiratory diagnostic hubs, to deliver respiratory diagnostic tests in primary care, and ensure appropriate follow up and referral of these patients.

Neighbourhood level 'respiratory diagnostic hubs' should be placed in accessible locations for patients, and in some cases could be a CDC. The number and location of spokes that the hub travels around needs to be carefully mapped by population need, considering factors that may impact the accessibility of a patient to a spoke such as a rural location. If necessary, for example in more rural locations, the hub should move to different accessible locations, with the qualified staff travelling with testing equipment to clinics around the neighbourhood, like GP surgeries, community centres, or pharmacies. An outreach arm to the hub would be an ideal way of ensuring services are delivered where the need is, ensuring these tests are accessible to seldom-heard communities or inclusion health groups. This method would mean the delivery of respiratory diagnostic services could be provided every day of the week in a different location serving patients across the neighbourhood in the most accessible way. This also enables a system level of oversight and reduces variation in access than if led by GP practices.

The neighbourhood level hub can be referred into by GPs, accident + emergency/urgent care centres, walk-in centres, and out-of-hours services. If a patient's symptoms indicate respiratory disease, they should be referred to the hub to receive relevant tests such as blood eosinophils, FeNO, and handheld spirometry. These tests will be able to diagnose non-complex patients, who can efficiently be put onto treatment. Additionally these tests require minimal training and can be delivered by the workforce model laid out below. The hub should provide these for both adults and children and young people. If a diagnosis cannot be reached through these tests, patients should be referred to a local CDC where they can be put onto the breathlessness pathway to receive quality assured spirometry with BDR, imaging tests like CT scans, breathing pattern disorder, sleep disorder tests etc.

Respiratory diagnostic hubs may look different across different neighbourhoods, for example, they may be delivered in different physical spaces, or use different referral pathways. It is essential that they provide alignment, across the UK, to patients being able to access respiratory diagnostics in accessible locations. It is for commissioners to decide how these should be delivered in the most appropriate way for their population.

If staffed by an efficient multidisciplinary team (MDT) of appropriately trained clinical and non-clinical staff to deliver the service, patients can receive a diagnosis and get onto the right treatment right away. This will allow the hub to be staffed efficiently: for example, spirometry can be delivered to the patient by a Band 3 physiologist, and an appropriately trained professional (for example, an advanced respiratory nurse practitioner) can interpret the results, confirm a diagnosis, prescribe initial treatment and can refer patients to further support if needed (such as onto smoking cessation services, or for pulmonary rehabilitation). Non-clinical admin support can facilitate the data input and record sharing back to the patient's GP, ensuring the patient is appropriately followed up and referred as needed. Neighbourhood level working would mean the skills of the workforce in the area would remain within the area, but the costs and savings achieved by delivering this service across the neighbourhood could be shared, lowering the burden of cost to individual practices.

The development of respiratory diagnostic hubs will require health boards and trusts to develop a skilled, multidisciplinary community-based respiratory workforce. Workforce planning should effectively utilise skilled MDTs by deploying HCPs according to the expertise required, which would ensure efficient use of resources, enhances patient experience, and supports cost-effective delivery. Workforce planning should also build a local workforce that reflects the population needs, accounting for factors that may increase the respiratory diagnostic requirements like deprivation, smoking prevalence, and local air pollution levels. Commissioners within health boards and trusts must focus on ensuring sufficient staffing and training capacity for both adult and CYP respiratory diagnostics. This includes addressing the different commissioning, delivery, and training requirements between adult and CYP services to ensure these roles are filled and funded appropriately at neighbourhood level. Without the workforce to deliver an efficient service, the change required to ensure all respiratory patients receive the diagnosis they need will not be realised.

By funding respiratory diagnostic hubs at a neighbourhood level, health boards and trusts can benefit from economies of scale and shared staffing - resources that would otherwise be too expensive, underutilised to be efficient, or difficult to maintain individually. This also applies to the staff retaining skills and accreditation needed for respiratory diagnostics. This approach will be cost-saving for the majority of patients, with the more expensive tests reserved for the most complex patients. This will be more accessible for patients as the majority will be able to access the tests they need at their local GP or community diagnostics centre. It will also be quicker to deliver, getting patients to treatment faster and reducing waiting lists, thereby supporting the goal of reducing elective care waiting lists. In England, this hub model should be built by the Department of Health and Social Care (DHSC) into the emerging guidance on neighbourhood ways of working.



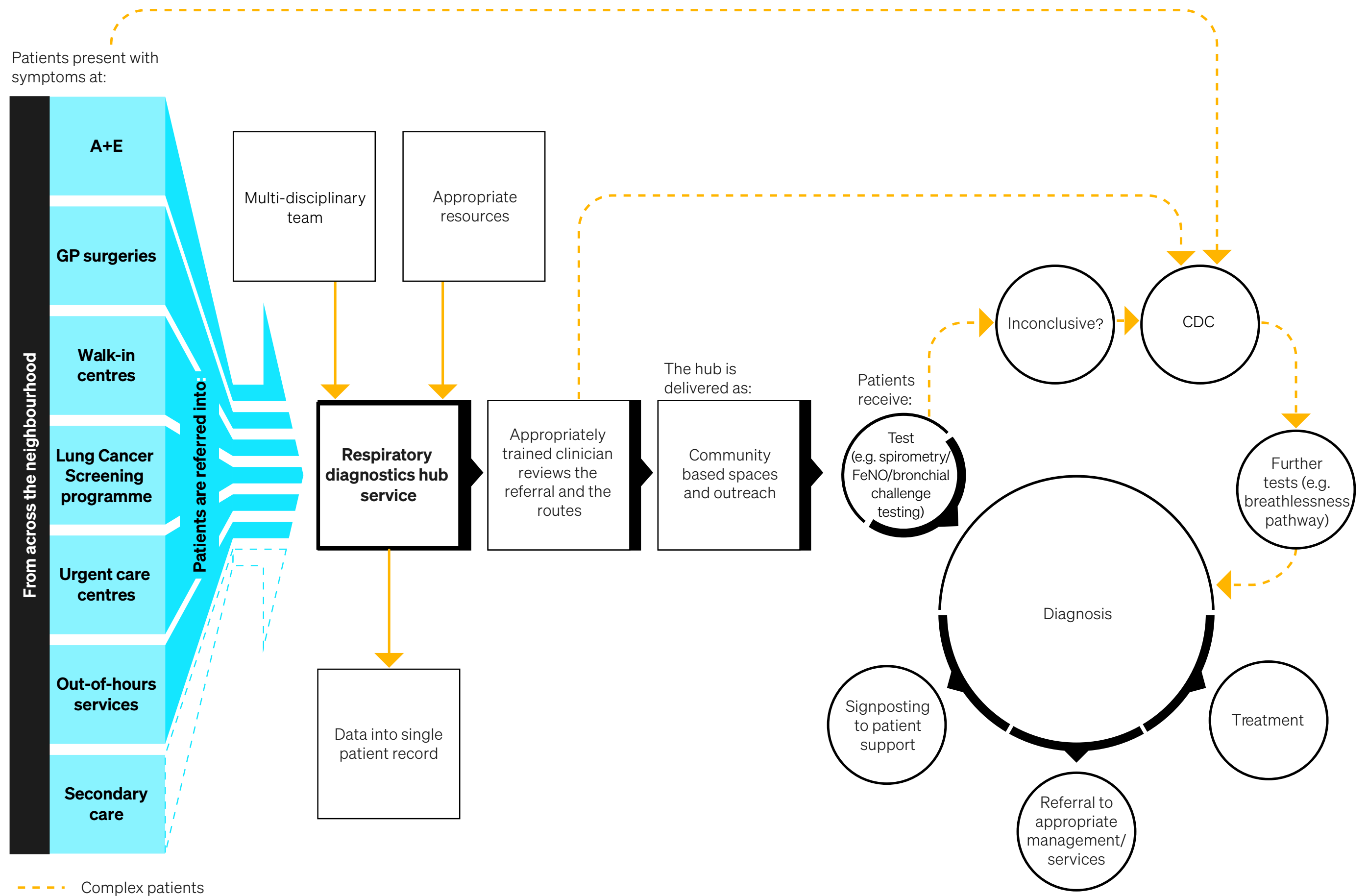


Figure 5. A flow chart showing an example of where a respiratory diagnostic hub could sit within a neighbourhood health service and how the patient journey could flow through a respiratory diagnostic hub.

To provide the funding required:

2

Health boards and trusts across the UK must provide a LES, or similar arrangement, on a sustainable three year funding cycle, to support the establishment of respiratory diagnostic hubs.

We recognise that in some areas they already have effective spirometry and FeNO services already being funded, and this should not be taken away or changed. This recommendation is to *level the playing field* and bring those areas across the UK not delivering spirometry and FeNO at the scale needed up to the same service provision as those who are to ensure there is no diagnostics postcode lottery. That is why every health boards and trusts must deliver a locally enhanced service (LES) or similar funding mechanism (for example, in some parts of London, hubs are commissioned as part of an integrated population level respiratory pathway to ensure integration and sustainability), that will provide the funding needed for every neighbourhood to establish and run a Respiratory Diagnostics hub. By settings these up on a three year funding cycle, it will allow services to be run in a sustainable way, with workforce, tools and facilities being invested in with a long term view rather than scrambling for the funds every year which adds additional administrative burden to service delivery, while being able to adapt to population changes over time.

To monitor this:

3

Health boards and trusts across the UK should collect and publish data on the provision of respiratory diagnostics, which should be used by governments to hold systems to account.

Data is needed to monitor population need, number of tests provided, workforce training and accreditation levels, waiting times, and condition prevalence to ensure we have an accurate record of respiratory diagnosis across the country. Health boards and trusts should produce an annual report on how they are meeting the needs of their local population by providing this data, and how they are fulfilling their legal duties to reduce health inequalities.⁵³ This will also enable better annual predictions for funding, ensuring these tests are cost effective and avoiding unnecessary spend, as well as meeting expected demand and where proactive patient finding might be needed.

All nations should be collecting and publishing spirometry and FeNO data whether it is undertaken in a GP practice, diagnostic hub, CDC, or in secondary care. This will help to bring the collection of respiratory diagnostic data in line with other conditions, like cancer in which the National Disease Registration Service provides monthly cancer diagnosis data.⁵⁴ Data collection and publication will need to form the basis of being able to hold health boards and trusts to account for achieving the minimum standards on diagnosis outlined above. For diagnosis, this must include getting spirometry and FeNO testing data into the Diagnostics Waiting Times and Activity (DM01) data collection. This data is already collected and published quarterly in Northern Ireland waiting time statistics.⁵⁵ The rest of the UK should follow suit to deliver equity and parity across the UK.

This data should be used as an accountability mechanism for service providers, and formal mechanisms will be needed for governments to monitor outcomes and take action where they are falling short. We know these vital diagnostic tests are not being commissioned in many areas across the UK, leaving patients without a timely, accurate diagnosis, yet local health systems receive no sanction or support to make improvements. This must change.

Case study

The Living Well Partnership in Southampton

The Living Well Partnership (LWP) is a PCN in the east of Southampton with above average levels of deprivation. Its eight GP practices cover over 46,000 patients, and the Partnership does this in an integrated way with combined GP teams, an emphasis on continuity, and joint working, allowing significant economies of scale for preventative and population health management.

LWP has a respiratory hub employing four respiratory nurse specialists. Quality assured spirometry and FeNO testing is available for both adults and children, commissioned via a locally enhanced service, with both testing and interpretation carried out by the hub. This model has shown itself to be both clinically and cost effective, with the volume of patients ensuring that the respiratory nurse specialists see enough patients to achieve and maintain accreditation. The Partnership has just over 3,000 registered asthma patients and around 900 with COPD. Prevalence is higher than other PCNs locally, which may be related to deprivation, but it is also likely that this difference is due to the positive focus on respiratory diagnoses and the effectiveness of their hub in accurately finding and diagnosing those with respiratory conditions.

Regular respiratory MDT meetings ensure appropriate referrals into community and secondary care, but all the key work is done by the respiratory hub within primary care first, something which has been successful in preventing inappropriate referrals. A separate fortnightly One Team MDT meeting also discusses patients who are frequent users of primary and secondary care services, including urgent and emergency care, with a respiratory long term condition, with interventions put in place resulting

in a reduction of these number of contacts. The MDT meetings are patient centred and attended by partners in health, social care, and the voluntary sector, discussing the patients' housing, social and financial situations in addition to their mental and physical health. The Partnership also has plans for further developments, such as group consultations for those with asthma and COPD, and expanding the Urgent and Emergency Care MDT work to cover other conditions alongside respiratory.

In addition to the Respiratory Hub, there is a Women's Health Nurse Specialist and an Anticoagulation Specialist Nurse covering the full population, demonstrating how this approach can also work for other conditions. The Partnership also employs social prescribers, health and wellbeing coaches, weight loss management coaches and a smoking cessation coach, highlighting the way in which economies of scale realized by working across this population better allow the commissioning of these preventative and health promotion roles. At this early stage, evaluation of impact is limited, but using One Team MDT case studies LWP have found patients who have seen their encounters with their GP practices reduce by up to 88%, and others with a 90% reduction in urgent care appointments.

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