



Royal College
of Physicians

National Respiratory Audit
Programme (NRAP)

Catching our breath: Time for change in respiratory care

Data from people with asthma and COPD (chronic obstructive pulmonary disease) admitted to hospital with an exacerbation, and people with COPD assessed for pulmonary rehabilitation between 1 April 2023 – 31 March 2024.

Publication year: 2025

In association with:



IMPERIAL



Commissioned by:



Funded by:



Ariennir yn Rhannol gan
Lywodraeth Cymru
Part Funded by
Welsh Government

Introduction

The *Catching our breath* report from the National Respiratory Audit Programme (NRAP) presents important insights into the current state of the nation of respiratory care across England and Wales. It is being published at a key time in the NHS as a new 10-year health plan is forming that will define priorities and influence ways of working for services and commissioners for the next decade. Our publication marks over 10 years since the landmark [National Review of Asthma Deaths](#), which highlighted important deficiencies in asthma care and made 19 key recommendations to improve outcomes and avoid preventable harm and deaths.¹

In that context, it is of genuine importance that this report identifies continued and highly significant deficiencies in the delivery of many of the key interventions for patients with asthma and chronic obstructive pulmonary disease (COPD) that are known to improve health and transform important clinical outcomes. This pattern has changed little in recent years and, in many aspects, has not recovered to pre-pandemic levels. Recognition and understanding of these deficiencies is vital to inform new models of care and appropriate use of resources.

For the first time in our reports, we are highlighting regional variability in the delivery of these key aspects of care. These insights require careful study and explanation, but the hope is that they will also provide a clear signal for health systems to follow, not only to address existing unmet needs but to support service development and strategies for ongoing healthcare improvement at a local and regional level.

While there continue to be many aspects of acute care that are not optimal during hospital admission, it is also apparent that in order to effect meaningful change in outcomes, the entire care pathway for people with asthma and COPD requires close scrutiny. Without the insights from primary care data in England, meaningful transformation of respiratory outcomes is not achievable.

Despite this picture, there are reasons for optimism. 2024 saw the launch of the [NRAP Healthcare Improvement Programme](#) – 30 respiratory services and 10 coaches volunteered their time and energy to design and lead a range of improvement projects, showing both the appetite and ability to drive change. They have started the journey to improve the quality

of their own services which will provide practical examples for teams across the NHS to follow.

Catching our breath has been enabled by the concerted and coordinated contribution of clinical services delivering respiratory care and pulmonary rehabilitation (PR) for people with asthma and COPD across England and Wales. The report highlights the importance of this activity and shines a bright light on the areas of care that require both investment and innovation. However, to affect the change in outcomes required, national policymakers, healthcare regulators and commissioners must support the dedicated respiratory community by acting on the key recommendations of this and [previous reports](#) in order to deliver the quality of care that people living with respiratory conditions across England and Wales deserve.



Catching our breath – report at a glance

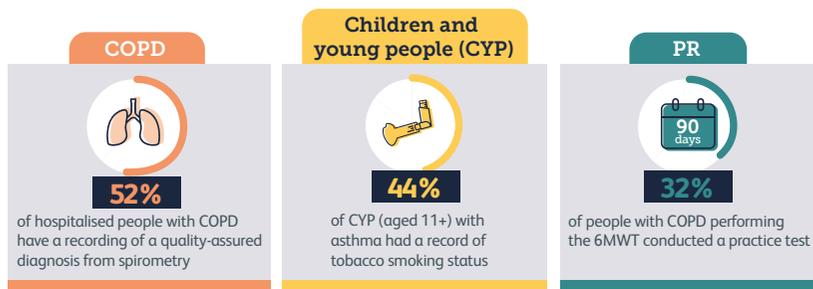
Data collected between 1 April 2023 – 31 March 2024, compiled from:

98,601 asthma and COPD records across England and Wales

27,507 pulmonary rehabilitation records across England and Wales

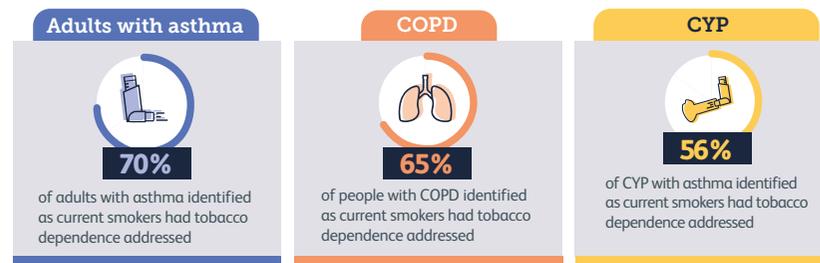
1. Improving data availability and quality to drive change:

- > Integrated care boards and local health boards should mandate for all eligible services to participate in NRAP to achieve 100% service participation and a minimum of 50% case ascertainment.



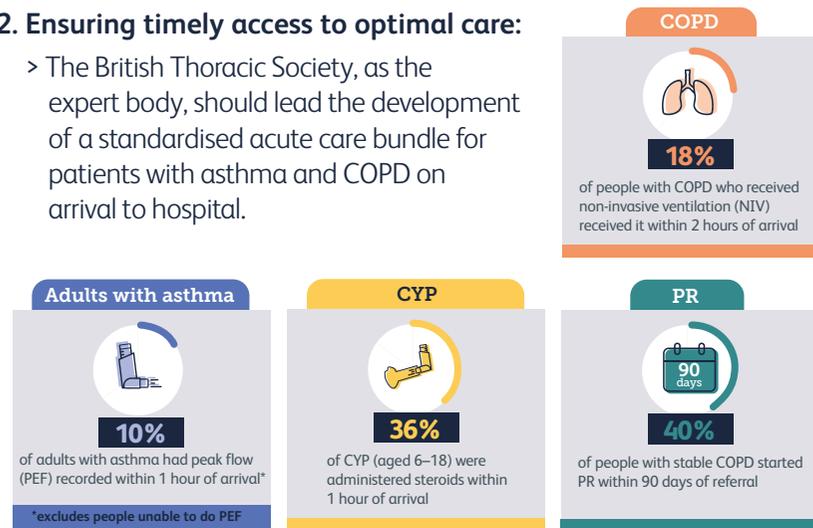
3. Delivering essential treatment – tobacco dependence:

- > All people with COPD and asthma who smoke, and smokers who are parents of children and young people with asthma, should be offered evidence-based treatment and referral for tobacco dependency.



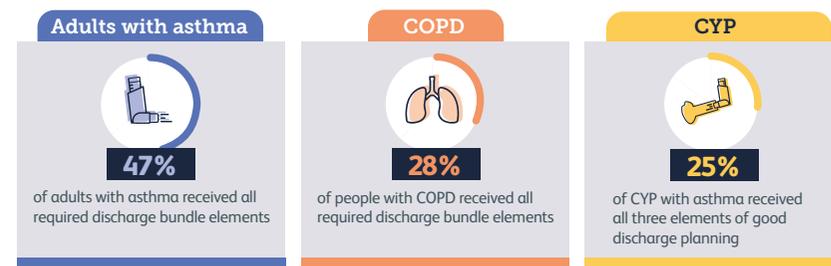
2. Ensuring timely access to optimal care:

- > The British Thoracic Society, as the expert body, should lead the development of a standardised acute care bundle for patients with asthma and COPD on arrival to hospital.



4. Improving discharge planning – spotlight on healthcare improvement:

- > Integrated care boards and local health boards should regularly review NRAP data on discharge planning for CYP and adult asthma and COPD with their providers. If data indicates gaps in care or poor data quality, they should collaborate to identify solutions.



Case ascertainment and service participation

This report compiles data from services across England and Wales in the NRAP, covering 126,108 case records of people with asthma and COPD admitted to hospital with an exacerbation or assessed for pulmonary rehabilitation (PR) between 1 April 2023 – 31 March 2024. Full case ascertainment data can be found [here](#).

NRAP acknowledges the burden of data entry on services and reflects on this in our [data burden reduction strategy](#).

Read our supporting [data deep dive report](#) for further detail on:

Adult asthma: Variation in the completion of a discharge bundle

Children and young people's asthma: Elements of care received by children admitted with near-fatal asthma

COPD: Key elements of discharge bundle provided as part of discharge

Pulmonary rehabilitation: Timely access to pulmonary rehabilitation

You can also read our [healthcare quality improvement resource](#) – aimed at supporting services to implement these report findings and support healthcare improvement.

How to use this report

We have a range of online resources to support this report:

- > Our [online infographic](#) highlights key findings from the report.
- > The [full methodology](#) outlining how the analysis was carried out is available to download, alongside a [glossary](#).
- > The [line-of-sight table](#) describes the evidence base for the recommendations in the report.
- > Full data files are available to download 10 days after publication at [data.gov.uk](#).
- > Live benchmarking for key performance indicators is available on [our website](#).

This report supports our [healthcare quality improvement strategy](#) and our [good practice repositories](#) that contain examples to support local improvement. The infographics throughout show the reported data for 2023–24, alongside the data from 2022–23 and 2021–22. Please note that the 2023–24, 2022–23 and 2021–22 figures are not directly comparable as methodology, definitions and criteria surrounding data collection have changed over time.

Making an impact

NRAP works with patients to ensure our audit programme focuses on improvements in the areas most important to people living with respiratory conditions.

Royal College of Paediatrics and Child Health

The Asthma &Me Ambassadors are aged 14–24 and have joined together from across the country with a shared mission to improve asthma care and services for children and young people. Some of them have personal experiences of asthma, while others have an interest through family or friends – all have a passion to make a difference.

This year, we worked with the Asthma & Me ambassadors to produce [two resources](#):

- > What should you expect to receive when discharged from hospital after an asthma attack? – For children, young people and their families/caregivers.
- > A checklist for elements of care given at discharge from hospital after an asthma attack – For hospitals and medical staff.

Asthma and Lung UK

The NRAP patient panel – a group of people with lived experience of asthma and COPD supported by Asthma + Lung UK – meet regularly to share their own experiences of health and care with the aim of helping NRAP to focus on improving the things that matter most to people with these conditions.

This year, we worked with our adult panel to produce a patient and public version of this [report](#). This contains the report themes, data points and messages to empower people to understand their healthcare.

	COPD		Adult asthma		Children and young people asthma (1–5)		Children and young people asthma (6+)		Pulmonary rehabilitation	
	n	%	n	%	n	%	n	%	n	%
Country										
England	62,341	–	18,162	–	5,717	–	7,830	–	26,842	–
Wales	3,065	–	722	–	456	–	308	–	665	–
All	65,406	–	18,884	–	6,173	–	8,138	–	27,507	–
Gender										
Male	29,279	44.8	5,640	29.9	3,861	62.5	4,914	60.4	14,007	50.9
Female	36,041	55.1	13,178	69.8	2,307	37.4	3,205	39.4	13,461	48.9
Transgender	11	0	5	0	<5	0	5	0.1	7	0
Other	<5	0	<5	0	0	0	0	0	<5	0
Preferred not to say/not recorded	72	0.1	59	0.3	<5	0.1	14	0.2	31	0.1
Age										
Median	73	–	51	–	3	–	9	–	70	–
Lower quartile	65	–	35	–	2	–	7	–	63	–
Upper quartile	79	–	65	–	4	–	12	–	76	–
IMD quintile										
1	23,052	35.2	5,597	29.6	1,802	29.2	2,329	28.6	6,965	25.3
2	15,351	23.5	4,184	22.2	1,413	22.9	1,921	23.6	6,088	22.1
3	11,675	17.9	3,546	18.8	1,156	18.7	1,498	18.4	5,480	19.9
4	9,050	13.8	2,923	15.5	942	15.3	1,202	14.8	4,948	18
5	5,713	8.7	2,450	13	814	13.2	1,125	13.8	3,806	13.8
Missing/unavailable	565	0.9	184	1	46	0.7	63	0.8	220	0.8
Cases reported to HES (England) and PEDW (Wales), and via NRAP survey for pulmonary rehabilitation										
	128,790	–	43,400	–	20,233	–	–	–	39,039*	–
Cases entered into NRAP audit										
	65,406	–	18,884	–	14,228	–	–	–	26,027*	–
Case ascertainment (%)										
	–	50.8	–	43.5	–	70.3 [†]	–	–	–	66.7*

Figure 1: Admissions for exacerbations of COPD and asthma (adults and children and young people), and assessments of people with COPD for pulmonary rehabilitation, between 1 April 2023 – 31 March 2024 by socio-demographic characteristics. [†]Case ascertainment is presented as a single combined figure for children and young people with asthma of all ages.

n: Numerator
<5: Less than five patients. This is suppressed to avoid patient identification.

*For pulmonary rehabilitation, figures for cases reported and cases entered into the audit include data only from services who completed the NRAP case ascertainment survey in October 2024. Therefore, the number of cases entered into the audit used to calculate case ascertainment may differ from the overall number of cases entered into the PR audit for the reporting period.

1. Improving data availability and quality to drive change

Data availability and quality

To improve the quality of care for people with respiratory illness, we need to have a better understanding of the entire patient pathway. This is informed by high-quality, high-volume data which is needed to help identify variation and areas for focused improvement across England and Wales.

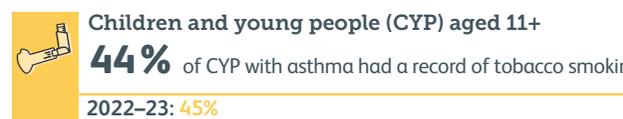
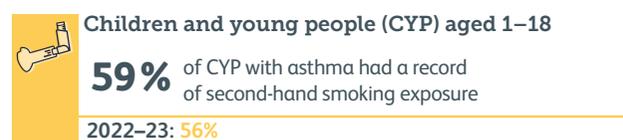
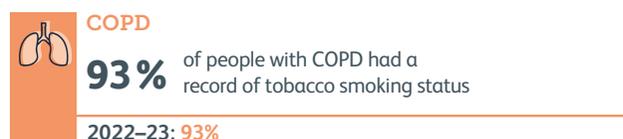
The complete lack of access to primary care respiratory data in England creates a significant gap in understanding the patient journey and how to address unmet healthcare needs. Access to primary care data would help to reveal health inequalities, highlight marginalised populations, and guide efforts to ensure equitable access to diagnoses and treatments. NRAP's established [primary care audit in Wales](#) has been crucial in identifying gaps in healthcare and making recommendations to improve patient care with asthma and COPD.

Our data shows that only 49%* of patients in hospital with COPD had a spirometry result available when they were admitted for an exacerbation. Delayed access to quality-assured spirometry can result in late diagnosis and missed opportunities for early intervention, such as smoking cessation, pulmonary rehabilitation (PR), vaccinations, and appropriate inhaler prescriptions. However, without access to primary care data in England, we are unable to describe or understand the full picture of deficiencies in diagnosis.



Data completion

Data completion is low for certain questions of the acute care audits. For example, only 44% of children and young people (CYP) have a smoking status recorded in the audit, and only 59% of children and young people had a record of whether they are exposed to second-hand smoke in the home. Tobacco smoke and environmental exposure both increase the risk of an acute asthma exacerbation, however these risk factors are not being routinely captured or acted on for a significant proportion of CYP during an acute admission.²



NRAP encourages national organisations to make every effort to widen and open up access to primary care data, including for audit purposes.

**Spotlight on pulmonary rehabilitation:

Availability of practice walk test data

Data from our PR audit demonstrate low levels of completion of practice walk tests. Out of people with COPD performing the 6-minute walking test (6MWT), only 32% of people conducted a practice walk test. Additionally, of those people with COPD who performed an incremental shuttle walk test (ISWT), 75% conducted a practice test. Therefore, this means that validated exercise assessments are not being performed as required.



Recommendation 1

We reiterate the importance of our *Breathing Well* recommendation which is maintained for this year's report: Integrated care boards and local health boards should mandate all eligible services to participate in NRAP to achieve 100% service participation and a minimum of 50% case ascertainment by all services in NRAP audits by May 2026. This will require all services to have named NRAP clinical leadership and dedicated audit support.

*Please note, there could be multiple reasons why a spirometry result was not available (for instance, if the result was not quality-assured)
 **This is based on case ascertainment as submitted to the NRAP PR case ascertainment survey

2. Ensuring timely access to optimal care

Ensuring that people with asthma and COPD have access to the best available care upon arrival to hospital is vital – both the nature and timing of treatment interventions are key. [BTS/SIGN Asthma Guidelines 2019](#) state that everyone should be aware that people with asthma are at risk of becoming seriously unwell very quickly, so should have immediate access to a trained professional in their emergency treatment.³

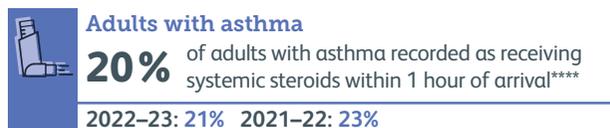
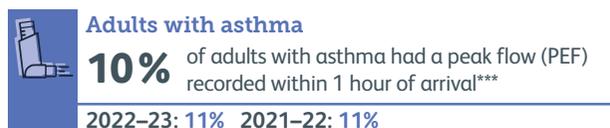
The [National Review of Asthma Deaths 2014](#) identified avoidable factors in the assessment of asthma attacks in 34% of deaths, including failure to recognise abnormal vital signs, make appropriate physiological measurements and in the initiation of guideline-based treatments.⁴ Asthma and Lung UK reported that over 12,000 people in the UK have died from asthma attacks since the publication of this report over 10 years ago.⁵

The first hours of care

Peak flow measurement assists with the diagnosis and severity assessment of an acute asthma exacerbation which guides subsequent management.⁶ However, NRAP data shows that only 10% of adults with asthma had a peak flow recorded within 1 hour of arrival to hospital in 2023–24. This key performance indicator (KPI) has decreased since pre-covid figures, with 2019–20 data showing 19% of people with asthma had peak flow taken within 1 hour of arrival at hospital.⁷ Performance is universally poor but varies regionally as adults with asthma with a record of peak flow within 1 hour of arrival sits at 6% in both the

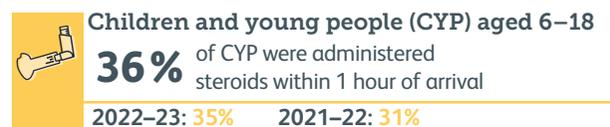
north west and east of England, while this rises to 14% in both London and south west regions.

There is evidence that enhanced assessment and treatment protocols improve the delivery of first hours of care. For example, nurse-initiated oral corticosteroids (OCS) lead to clinical improvements in speed of discharge and admission rates and reduced mean times for OCS administration.^{8,9} Only 20% of adults with asthma had a record of systemic steroids administered within 1 hour of arrival to hospital, with similar deficiencies in the first hours of care delivered for CYP with asthma (36% of CYP aged 6–18 had a record of steroids administered within 1 hour of arrival to hospital).^{8,9}

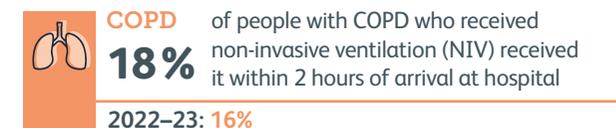


***excludes people unable to do PEF

****excludes people who had received steroids in 24hrs prior to admission



Acute non-invasive ventilation (NIV) can be a lifesaving treatment when used in clinically appropriate cases of COPD with acute hypercapnic respiratory failure (AHRF).



NIV reduces mortality by 50% and shortens hospital length of stay when used to treat COPD exacerbations complicated by AHRF.¹⁰ However, NRAP data shows that only 18% of people with COPD who received NIV received it within 2 hours of arrival at hospital.

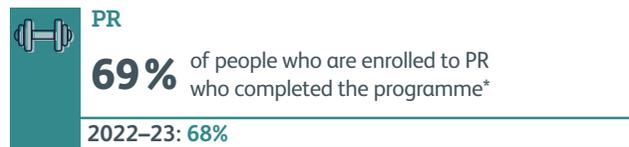
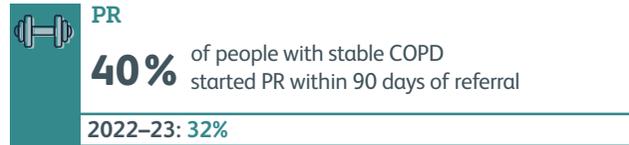
What can be done?

While our audits focus on care delivered by respiratory teams, it is recognised that there is an extended team responsible for the delivery of the first hours of care, including emergency department and acute medical admissions.

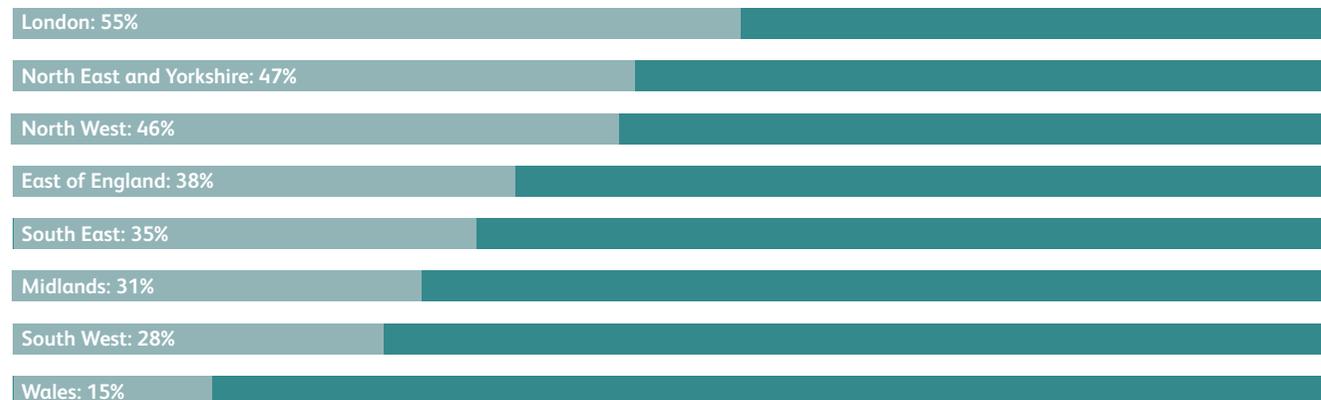
To improve the quality of care in the first hours of an emergency admission for people with asthma and COPD, we urge the development of an acute care bundle. This should ensure rapid assessment and delivery of medication and treatment to people with asthma and COPD on arrival to hospital, which should be available regardless of the healthcare setting or where they are in the country.

Spotlight on pulmonary rehabilitation (PR): Timely access to PR

The need to improve timely access to PR was highlighted in last year's *Breathing well* report. 40% of people with stable COPD started PR within 90 days of referral in 2023–24, with an average wait time of 107 days. While this represents an increase from 32% in 2022–23, there remains considerable opportunity for improvement. These data may reflect an increase in people accessing PR. It is also notable that there is large regional variation, with 55% of people in the London region starting PR within 90 days of referral, compared to 28% in the south west region. However, without primary care data, the proportion of eligible people who have been able to access PR cannot be calculated.



Regional variation: start date for PR within 90 days of referral



NRAP healthcare quality improvement goal

70% of patients start a PR programme within 90 days of referral, and 70% of patients with acute exacerbation of COPD (AECOPD) start within 30 days of referral by May 2026.

Recommendation 2

The British Thoracic Society, as the expert body, should lead the development of a standardised acute care bundle for patients with asthma and COPD on arrival to hospital, working towards May 2026. This should involve consultation with other bodies such as the Royal College of Emergency Medicine, Society for Acute Medicine, and NRAP. NRAP will measure the implementation of the acute care bundle by tracking the percentage of patients receiving timely and optimal care.

*Please note, this refers to the percentage of patients enrolled onto a PR programme who had a discharge assessment.

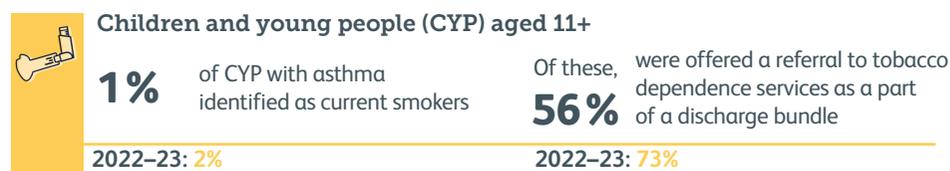
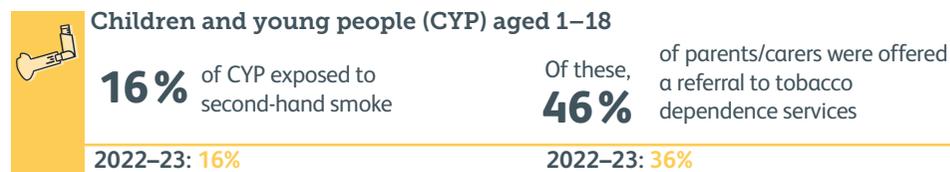
3. Delivering essential treatment: tobacco dependence

In last year's *Breathing well* report, we highlighted the need to roll out comprehensive opt-out tobacco dependence services. There continues to be significant missed opportunities during acute inpatient care to identify and treat smoking as a driver of adverse outcomes for both children and adults with asthma and COPD. This is a critical aspect of clinical care for people with respiratory disease and is supported by [NICE guidance](#) which recommends that all acute inpatients should be asked about smoking status and offered treatment and support.¹¹

Around 1 in 3 adults with asthma or COPD who smoke are not being offered treatment and support for tobacco dependence when admitted to hospital (in 2023–24).

While there has been a slight improvement (60% in 2022–23 to 65% in 2023–24) for people with COPD, the proportion of people with asthma who had tobacco dependence addressed is mostly unchanged (69% in 2022–23 to 70% in 2023–24) over the past 12 months. The proportion of people identified as current smokers remains unchanged at 19% for adults with asthma and over 35% for people with COPD. Data are also concerning for CYP with asthma, with 16% reported as being regularly exposed to second-hand smoking. Of these, 46% had a record of parent/carer tobacco dependence being addressed. Ensuring everyone is offered evidence-based treatment and referral to a tobacco dependence service remains a major priority.

NRAP healthcare quality improvement goal: 100% of patients with COPD and asthma who smoke, and parents of CYP who smoke, have been offered a referral to treat tobacco dependency and/or prescribed treatment by May 2026.



Recommendation 3

We reiterate the importance of our *Breathing well* recommendation which is maintained for this year's report:

All people with COPD and asthma who smoke, and smokers who are parents of children and young people with asthma, should be offered evidence-based treatment and referral for tobacco dependency. In England, the Department of Health and Social Care, NHS England and integrated care boards should work together to provide increased resource to all acute, mental health and maternity services in England, so that every provider develops and implements a comprehensive inpatient tobacco dependency service.

4. Improving discharge planning

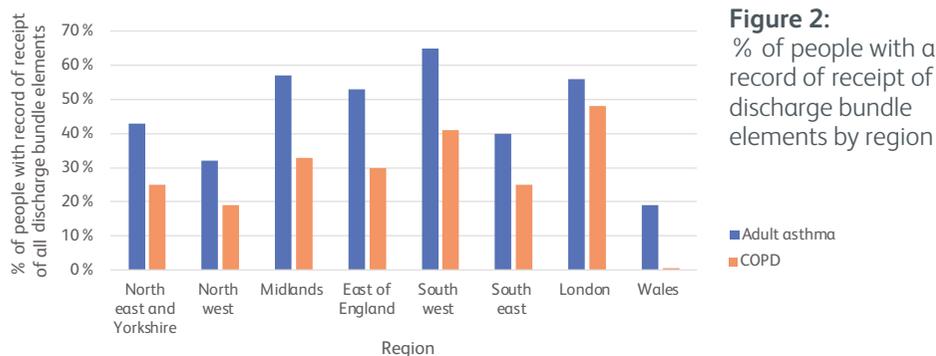
Effective discharge planning is crucial for ensuring better health outcomes for patients with asthma and COPD.

Adults with asthma

In 2023–24, only 47%* of people with asthma received all required discharge bundle elements. Some elements of the discharge bundle were better achieved as 81% of people with asthma had their maintenance medication reviewed. Our data shows variability in performance between the south west region, where 65% of people with asthma received all required discharge bundle elements, compared to 32% in the north west and just 19% of people with asthma in Wales.

Adults with COPD

Only 28%* of people with COPD received all elements of the discharge bundle. There is significant variation, from 48% in London, 19% in the north west, and only 0.5% of people in Wales. An essential element of discharge for people with COPD is assessment for suitability of, and referral to, PR. Our data show that only 58% of people with COPD were assessed for suitability for PR.



Children and young people with asthma

Only 25%* of CYP with asthma received all three elements of good discharge planning.¹² Some individual elements of the discharge bundle are better performed, with 64% of CYP having their inhaler technique checked and 50% of CYP having their personalised asthma action plan (PAAP) issued or reviewed. Whereas, only 32% had a specialist review requested within 4 weeks of discharge.



Spotlight on pulmonary rehabilitation: Referral pathways

Both BTS and NICE guidance on pulmonary rehabilitation recommends that ‘patients hospitalised for acute exacerbation of COPD (AECOPD) should be offered pulmonary rehabilitation at hospital discharge’.¹³ NRAP data show that only 4% of people in the PR audit were referred to PR from secondary care services following AECOPD. We would expect this figure to be higher and this indicates a missed opportunity for many.



4%

of people in the PR audit were referred to PR from secondary care services post treatment for AECOPD

2022–23: 4%

Spotlight on healthcare improvement

All integrated care boards and local health boards should regularly review NRAP data on discharge planning for CYP and adult asthma and COPD with their providers. If data indicates gaps in care, or poor data quality, they should collaborate to identify solutions.

*Please note, this refers to the percentage of people **recorded as** being in receipt of a discharge bundle. Additionally, in England there is best practice tariffs (BPT) available for COPD and adult asthma discharge bundle completion.

Royal College of Physicians

The Royal College of Physicians (RCP) plays a leading role in the delivery of high-quality patient care by setting standards of medical practice and promoting clinical excellence. The RCP provides physicians in over 30 medical specialties with education, training and support throughout their careers. As an independent charity representing 40,000 fellows and members worldwide, the RCP advises and works with government, patients, allied healthcare professionals and the public to improve health and healthcare.

Healthcare Quality Improvement Partnership

The National Respiratory Audit Programme (NRAP) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges and the Royal College of Nursing. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales.

HQIP holds the contract to commission, manage and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies www.hqip.org.uk/national-programmes.

National Respiratory Audit Programme (NRAP)

The National Respiratory Audit Programme (NRAP) aims to improve the quality of the care, services and clinical outcomes for patients with respiratory disease across England and Wales. It does this by using data to support and train clinicians, empowering people living with respiratory disease, and their carers, and informing national and local policy. NRAP has a track record of delivery and is critical in assessing progress against the NHS Long Term Plan. To find out more about the NRAP visit our [website](#).

Acknowledgements

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Professor Alice Turner, healthcare quality improvement clinical lead, NRAP
Peter Van Geffen, project manager, NRAP
Professor Tom Wilkinson, senior clinical lead, NRAP
NRAP Advisory Groups
NRAP Board
NRAP patient panels

Citation for this document

Royal College of Physicians. *Catching our breath: Time for change in respiratory care*. Summary report. RCP, 2025.

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