NLCA
National Lung Cancer Audit

NATCAN
National Cancer Audit Collaborating Centre

# National Lung Cancer Audit State of the Nation 2025

An audit of care received by people diagnosed with lung cancer in England and Wales during 2023

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**This document was prepared by members of the NLCA project team:**

Neal Navani, NLCA Senior Clinical Lead
John Conibear, NLCA Oncology Lead
Doug West, NLCA Thoracic Surgical Lead
Lauren Dixon, NLCA Clinical Fellow
Ella Barber, NLCA Data Scientist
Joanne Boudour, NLCA Senior Project Manager
Adrian Cook, NLCA Senior Statistician
Sarah Cook, NLCA Methodologist
David Cromwell, NLCA Lead Methodologist
With review and input from:
NLCA Clinical Reference Group
NATCAN Executive Team


Royal College of Surgeons of England
ADVANCING SURGICAL CARE

**The Royal College of Surgeons of England (RCS)** is an independent professional body committed to enabling surgeons to achieve and maintain the highest standards of surgical practice and patient care. As part of this it supports audit and the evaluation of clinical effectiveness for surgery. Registered Charity no: 212808.

HQIP
Healthcare Quality Improvement Partnership

The National Cancer Audit Collaborating Centre (NATCAN) is commissioned by the **Healthcare Quality Improvement Partnership (HQIP)** as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). NATCAN delivers national cancer audits in non-Hodgkin lymphoma, bowel, breast (primary and metastatic), oesophago-gastric, ovarian, kidney, lung, pancreatic and prostate cancers. 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. https://www.hqip.org.uk/national-programmes

British Thoracic Oncology Group BTOG

**The British Thoracic Oncology Group (BTOG)** is the multi-disciplinary group for healthcare professionals involved with thoracic malignancies throughout the UK. Registered Charity no: 1166012

Society for Cardiothoracic Surgery in Great Britain and Ireland

**The SCTS** is the representative body for cardiothoracic surgery in Great Britain & Ireland. Registered Charity no: 1113536

NDRS
NATIONAL DISEASE REGISTRATION SERVICE

This work uses data that has been provided by patients and collected by the NHS as part of their care and support. For patients diagnosed in England, the data is collated, maintained and quality assured by the National Disease Registration Service (NDRS), which is part of NHS England. Access to the data was facilitated by the NHS England Data Access Request Service.

GIG CYMRU NHS WALES
Rhwydwaith Canser Cymru
Wales Cancer Network

NHS Wales is implementing a new cancer informatics system. As a result, the quality and completeness of data from Wales is likely to have been impacted due to implementation of this new system across multiple NHS organisations (Health Boards), which has resulted in data being supplied by both old and new systems. Additionally, and reflecting the uncertainty of data quality, the data submitted to the audit may not have undergone routine clinical validation prior to submission to the Wales Cancer Network (WCN), Public Health Wales.

# Contents

# 2. Recommendations

| Recommendation | Audience | Key results | Quality Improvement Goal | National Guidance/ Standards/ Resources |
|---|---|---|---|---|
| 1. Ensure services maximise the uptake of lung cancer screening for people aged 55 to 74 who are at high risk of lung cancer. | England: Cancer Alliances working with NHS trusts<br><br>Wales: Local Health Boards | In England, the percentage of people with lung cancer diagnosed with stage 1/2 disease was 36.7% in 2023. In Wales, the percentage was 33.9% in 2023. | Goal 1: Improve early diagnosis of lung cancer | NHS England<br><br>https://www.england.nhs.uk/wp-content/uploads/2019/02/B1646-standard-protocol-targeted-lung-health-checks-programme-v2.pdf |
| 2. Ensure providers have sufficient thoracic surgery capacity to accommodate the larger number of people with Non-Small Cell Lung Cancer (NSCLC) who are candidates for curative surgery. | England: Cancer Alliances working with NHS trusts<br><br>Wales: Local Health Boards | In England, 7,018 people with NSCLC had surgery with curative intent in 2023, up from 5,865 in 2022. In Wales, 364 people had surgery in 2023, up from 276 in 2022. | Goal 2: Increase the proportion of patients who have treatment with curative intent | NICE Guideline NG122<br><br>https://www.nice.org.uk/guidance/ng122 |
| 3. Identify opportunities for increasing the proportion of people with NSCLC stage 3B-4 (PS 0-1) to have Systemic Anti-Cancer Therapy (SACT) as per NICE guidance, such as help people maintain their fitness for SACT throughout the care pathway. | England: Cancer Alliances working with NHS trusts<br><br>Wales: Local Health Boards | In England during 2023, 61.6% of people with NSCLC (stages 3B-4, PS 0–1) had SACT, little changed from 2021. In Wales during 2023, the proportion was 55.2%, a fall from 2022 (=60.1%). | Goal 3: Increase the proportion of people receiving SACT and reduce variation in access | NICE Guideline NG122<br><br>https://www.nice.org.uk/guidance/ng122 |
| 4. Ensure NHS hospitals have the necessary resources and capacity to meet the timelines for patients to start primary treatment. | England: Cancer Alliances working with NHS trusts<br><br>Wales: Local Health Boards | In England and Wales, among key subgroups, most people diagnosed in 2023 did not start treatment within the recommended timeframes. | Goal 4: Improve the quality of the patient pathway | NHS England. National Optimal Lung Cancer Pathway (NOLCP)<br><br>https://rmpartners.nhs.uk/wp-content/uploads/2024/09/national-optimal-lung-cancer-pathway_v4_01jan2024.pdf<br><br>NHS Wales. National optimal pathway for lung cancer: 2nd Edition (2022) |
| 5. Ensure NHS hospitals have the necessary resources and capacity so that biomarker test results are delivered within 14 calendar days of the test being performed, as defined in the National Optimal Lung Cancer Pathway. | England: NHS England, ICBs,<br><br>Cancer Alliances<br><br>Wales: Local Health Boards. | England: Between 2017 and 2021, approximately 25% of people with stage 4 (PS 0-1) had genomic testing. | Goal 4: Improve the quality of the patient pathway | NHS England. National Optimal Lung Cancer Pathway (NOLCP)<br><br>https://rmpartners.nhs.uk/wp-content/uploads/2024/09/national-optimal-lung-cancer-pathway_v4_01jan2024.pdf<br><br>NHS Wales. National optimal pathway for lung cancer: 2nd Edition (2022)<br><br>Lung Cancer Clinical Expert Group. National commissioning guidance. (2024) |

# 1. Introduction

The aim of the National Lung Cancer Audit (NLCA) is to evaluate the patterns of care and outcomes for people with lung cancer in England and Wales, and to support NHS services to improve the quality of care for these individuals.

In this State of the Nation report, we present information on the care received by adults diagnosed with lung cancer during 2023 in England and Wales. The management of people with lung cancer is informed by various national guidelines and the NLCA evaluates current patterns of care against the standards that these set. Specific standards were defined in: Quality Standard QS17 from the National Institute for Health and Care Excellence (NICE), the national commissioning guidance from the Lung Cancer Clinical Expert Group, and the National Optimal Lung Cancer Pathway. The NLCA has developed quality improvement goals and indicators using these standards and after consultations with its clinical reference group and Patient and Public Involvement (PPI) forum. The goals and indicators are described in the {NLCA Quality Improvement Plan}. To produce the indicator values, the NLCA analyses data that is routinely collected by the NHS as part of the care given to people diagnosed with lung cancer. This approach is designed to minimise the burden of data collection on hospital staff.

Additional materials that accompany this report are available at: www.lungcanceraudit.org.uk.

An interactive dashboard that contains results for individual NHS organisations, data tables and a description of the audit methods is also available. Since January 2025, information at organisation level is presented where a patient was first seen rather than the place of diagnosis. We encourage NHS lung cancer services to review the findings of this report and their results on the dashboard, and to explore reasons for unwarranted differences in practice.

A summary report for people living with lung cancer and the public will be available on the NLCA website. The website also provides access to:

- Links to resources that support local services' quality improvement initiatives such as a local action plan template.
- Quarterly reports that provide more recent information for each NHS lung cancer unit in England.
- Links to other sources of information about lung cancer.

The NLCA is one of ten national cancer audits commissioned within the National Clinical Audit and Patient Outcomes Programme (NCAPOP) which is funded by NHS England and the Welsh Government. More information about the national cancer audits for England and Wales can be found at: www.natcan.org.uk.

NLCA
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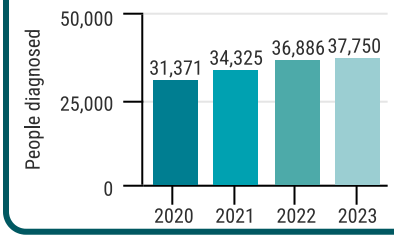
# Summary of results for patients diagnosed in England 2023

**Key**
- improving from 2022
- worsening from 2022
- unchanged from 2022

## Diagnosis & staging

**37,750**
people were diagnosed with lung cancer in 2023




**37%** ↑ of patients were diagnosed at **stage 1/2**
**32%** in 2022, **30%** in 2021 & **29%** in 2020

**43%** ↓ of patients presented **with stage 4 lung cancer**
**47%** in 2022, **49%** in 2021 & **50%** in 2020

**31%** ↓ of patients were diagnosed **after emergency admission**
**33%** in 2022, **29%** in 2021 & **29%** in 2020

### Waiting times in NSCLC

**83** days
Median time from referral to **surgery** in NSCLC stage 1/2

**66** days
Median time from referral to **SACT** in NSCLC stage 3B-4

## Treatment allocation

### Treatment with curative intent for Non-Small Cell Lung Cancer (NSCLC)

**80%** ↔ of patients with NSCLC (stage 1/2, Performance Status (PS) 0-2) received treatment with curative intent*

*surgery or radical radiotherapy

≥80% ✓ Audit standard

**80%** in 2022
**80%** in 2021
**81%** in 2020

**60%** ↓ of patients with NSCLC (stage 3A, PS 0-2) received treatment with curative intent**

**surgery, radical radiotherapy or multimodal treatment

N/A

**61%** in 2022
**61%** in 2021
**60%** in 2020

### Surgery for Non-Small Cell Lung Cancer (NSCLC)

**20%** ↑ of patients with NSCLC had surgical treatment for their cancer

≥17% ✓ Audit standard

**18%** in 2022
**17%** in 2021
**16%** in 2020

### Systemic Anti-Cancer Therapy (SACT) for Non-Small Cell Lung Cancer (NSCLC)

**62%** ↔ of patients with NSCLC (stage 3B - 4, PS 0-1) received SACT

≥70% ✗ Audit standard

**62%** in 2022
**63%** in 2021
**60%** in 2020

### Systemic Anti-Cancer Therapy (SACT) for Small Cell Lung Cancer (SCLC)

**73%** ↔ of patients with SCLC received treatment with SACT

Median time from 'decision to treat' to start SACT: 15 days

≥70% ✓ Audit standard

**73%** in 2022
**72%** in 2021
**69%** in 2020

### Survival outcomes

18,653 patients were diagnosed between 1 January and 30 June 2023. For these patients:

**Median survival**

**358 days** ↑

**281** days in 2022
**267** days in 2021
**242** days in 2020

**One year survival**

**50%** ↑

**46%** in 2022
**44%** in 2021
**43%** in 2020

## Data quality

### Completeness of key routine data items

| Stage | Performance status | Basis of diagnosis | Morphology | Lung Clinical Nurse Specialist at diagnosis | Smoking status |
|---|---|---|---|---|---|
| 91% | 86% | 91% | 65% | 66% | 45% |
| 90% ✓ Audit standard | 90% ✗ Audit standard | 90% ✓ Audit standard | 75% ✗ Audit standard | 90% ✗ Audit standard | 90% ✗ Audit standard |

# 2. Results for England (2023)

The results for England NHS services (January-December 2023) were derived using data from the Rapid Cancer Registration Dataset (RCRD) provided by the National Disease Registration Service (NDRS). The RCRD provides more up-to-date information on people diagnosed with cancer than the National Cancer Registration Data (NCRD and hence the former source of data is used in this analysis).

We analysed RCRD data on 37,750 people diagnosed with lung cancer in England during 2023. For earlier years, the dataset contained data on 36,149 people in 2022, 34,999 in 2021, 32,947 in 2020 and 35,516 in 2019[1]. There were 124 English NHS trusts which cared for people with lung cancer in 2023. The RCRD data were linked by NCRAS to other national health care datasets that provide additional information on hospital admissions and cancer treatments (see methodology supplement).

Several data items are essential for analyses designed to assess patterns of care. To highlight this, the audit defines targets for completeness for these data items. The completeness of demographic data items (age, ethnicity, social deprivation) was excellent, being complete for over 95% of records. However, completeness on other items was below the target levels (Table 1), and there was substantial variation between NHS trusts in the completeness of some items, which can be explored on the {online dashboard}. The completeness of tumour morphology at an organisation can reflect the number of people whose diagnosis was based on cytology or histology more than the data from these examinations being missing.

## 2.1 Data completeness in England

**Key messages:**

NHS trusts should improve the completeness of key data items submitted for the Rapid Cancer Registration Dataset. Completeness was below the target of 90% for patient smoking status (44.8%) and whether a patient saw a lung cancer nurse specialist (LCNS) at or close to the time of diagnosis (66.1%). Completeness of data on tumour morphology, disease stage, and performance status items also needs to be improved at some NHS trusts.

**Table 1.** Completeness of key data items for people diagnosed in 2023 in England

| Data item | Overall Completeness | Target level | No. of NHS trusts above target (n=124) |
|---|---|---|---|
| TNM (Tumour, Nodal, Metastasis) stage | 91.4 | 90% | 86 |
| Performance Status (PS) | 86.0 | 90% | 65 |
| Basis of diagnosis | 91.1 | 90% | 88 |
| Morphology* | 64.9** | 75% | 26 |
| Contact with lung cancer nurse specialist (LCNS) | 66.1 | 90% | 0 |
| Smoking status | 44.8 | 90% | 0 |

* Morphology refers to the type of lung cancer
**96.3% complete for people whose diagnosis included microscopic examination (cytology/histology)

1 These figures differ from the numbers published in previous reports as the RCRD is updated on a regular basis as new information is uploaded by NHS trusts

## 2.2 Patient characteristics in England

**Key messages:** The percentage of people with lung cancer who are diagnosed with stage 1/2 disease has continued to increase, from 30.5% in 2021 to 36.7% in 2023. Cancer Alliances should promote the uptake of lung cancer screening for people aged 55 to 74 who are at high risk of lung cancer.

Table 2 summarises the characteristics of the 37,750 people diagnosed in 2023. The proportion of lung cancers identified as small cell lung cancers (SCLC) was 6.8% in 2023, unchanged from 2022. The median age at diagnosis was 74.2 years overall (interquartile range (IQR): 66.6 – 80.3); for non-small cell lung cancer (NSCLC), the median age was 74.5 years, while for small cell lung cancer (SCLC), it was 71.0 years. A similar number of men and women were diagnosed; 50.1% of these were male and 49.9% female. The median age at diagnosis was 74.2 years among both men and women. Stage 4 disease was reported in 43% (n=14,858) of people with staging data in 2023, down from 47% (n=15,188) in 2022.

The distribution of disease stage has changed between 2019 and 2023 (Figure 1). The increase in the number of people diagnosed with stage 1/2 disease in recent years reflects the impact of lung cancer screening and other early diagnosis initiatives. The NHS Targeted Lung Health Check Programme reported to the NLCA that there were 5,271 people diagnosed with lung cancers among those aged 55-74 years invited for a health check between April 2019 and November 2024; the majority of these were diagnosed after April 2022 as the programme extended across the country (1284 in 22/23; 1819 in 23/24; 1304 in 24/25 (until November 2024))[2]. Of people staged after a diagnosis by screening, three-quarters (77.2%) had stage 1/2 disease overall, with the proportion in each English cancer alliance being typically between 71 and 80%.

**Table 2.** Characteristics of people diagnosed with lung cancer in England during 2023

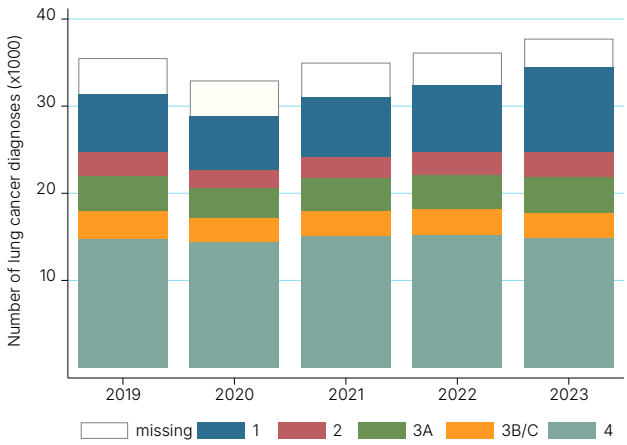
| | Overall percentage | Percentage among known | | Overall percentage | Percentage among known |
|---|---|---|---|---|---|
| **Smoking status** | | | **Type of Lung cancer*** | | |
| Never smoked | 4.3 | 9.6 | Non-small cell (NSCLC)# | 56.3 | |
| Current / Ex-smoker | 40.5 | 90.4 | Small cell (SCLC) | 6.8 | |
| Unknown | 55.3 | | Carcinoid | 1.8 | |
| | | | Type not assessed** | 35.1 | |
| **Stage at diagnosis** | | | **Performance status** | | |
| Stage 1 | 25.9 | 28.4 | 0 | 20.4 | 23.8 |
| Stage 2 | 7.6 | 8.3 | 1 | 29.0 | 33.7 |
| Stage 3A | 10.8 | 11.8 | 2 | 16.9 | 19.6 |
| Stage 3B-C | 7.7 | 8.4 | 3 | 15.2 | 17.7 |
| Stage 4 | 39.4 | 43.1 | 4 | 4.5 | 5.2 |
| Unknown | 8.6 | | Unknown | 14.0 | |

*Data is complete for 'Type of Lung cancer'; ** analysed together with NSCLC elsewhere

# Among people with known NSCLC disease, 55% were adenocarcinoma, 23.0% were squamous cell, with the remaining 21.4% being a mix of other cell types.

2 We thank Jessica Abell, Charlie Graham, Richard Lee, Arjun Nair, Charlotte Smith, and Haarini Sridhar at the TLHC Programme for providing these figures. See also https://www.england.nhs.uk/2024/11/thousands-of-cancers-caught-early-through-nhs-lung-checks/

**Figure 1.** Distribution of cancer stage among people diagnosed with lung cancer in England between 2019 and 2023.




## 2.3 Diagnosis, staging and treatment planning in England

**Key messages:** The proportion of people with a pathological diagnosis of lung cancer was 83.7%, which is below the NLCA target of 90%. NHS trusts with low rates of pathological diagnosis should explore opportunities to increase it. In 2023, 30.9% of people were diagnosed after an emergency admission. Among people with data recorded for this item, 93.1% saw a lung cancer nurse specialist (LCNS) around the time of diagnosis in 2023, but actual levels of performance are uncertain due to poor data completeness (see section 2.1).

Rates of diagnosis following an emergency admission were slightly lower in 2023 (30.9%) compared with 2022 (33.5%) but remained high and continue to show substantial regional variation (see NLCA dashboard).

Access to a LCNS around the time of diagnosis is a core expectation (NICE quality statement 3). Among people diagnosed in 2023 who had this data entered, 93% were reported to have had contact with a LCNS (Table 3). This exceeded the 90% target adopted by the NLCA. However, this figure should be treated with caution because data completeness overall was only 66.1% and exceeded 70% for only 66 NHS trusts.

**Table 3.** Indicators by English NHS trusts for people diagnosed in 2023

| | NLCA target | 2023* | No. of NHS trusts above target (n=124) |
|---|---|---|---|
| Diagnosis after an emergency admission | N/A | 30.9% | No target set |
| Proportion of people with pathological diagnosis (PS 0-1) | ≥90% | 83.7% | 46 |
| Proportion of people who had contact with a Lung Cancer Nurse Specialist (LCNS) around the time of diagnosis | ≥90% | 93.1%** | 92 |

* 2023 finding amongst known (missing data excluded)
** Data completeness for data item "contact with LCNS" was 66.1% overall

## 2.4 Time to the start of treatment in England

**Key messages:** Among key subgroups, most people are not starting treatment within the recommended timeframes. The time from referral to surgery exceeded 49 days for seven out of eight people with NSCLC stage 1/2. Among people diagnosed with stage 3B-4 NSCLC in 2023, the median time from referral to systemic anti-cancer therapy (SACT) was 66 days (IQR: 51 – 87), and the times for the majority of people exceeded **National Optimal Lung Cancer Pathway** (NOCLP) targets. For people diagnosed with SCLC in 2023, the median time from diagnosis to SACT was 15 days (IQR: 9 – 25). NHS trusts should actively monitor these "time to treatment" metrics to improve compliance with the targets. Delays risk compromising patient fitness, potentially rendering them ineligible for anti-cancer therapies, particularly for rapidly progressing conditions like SCLC.

The NHS England benchmark defined for cancer waiting times from 'decision to treat' to treatment is 31 days, though the National Optimal Lung Cancer Pathway (NOLCP) recommends a shorter 21 day time-frame. In 2023 the median waiting time was 16 days, with 64% of patients starting treatment within 21 days (from 16,305 patients who had surgery, SACT or curative radiotherapy). The median waiting time was also less than 21 days within every cancer alliance.

The NOLCP suggests the time between referral to the start of treatment should be no longer than 49 days, Table 4 shows that the time from referral to surgery exceeds 49 days for seven out of eight people with NSCLC stage 1/2. This is of concern because of the growing number of these patients (due to screening) and suggests that surgical services are not keeping up with the demand.

Timely diagnosis and treatment for people with SCLC is also crucial as these tumours are highly aggressive, rapidly progressive, and can quickly spread, ultimately leading to fatal outcomes. In 2017, the NLCA set a standard that at least 80% of people with SCLC should receive SACT within 14 days of pathological diagnosis. In 2023, the median time from diagnosis to treatment was 15 days (compared to 17 days in 2022).

**Table 4.** Times to the start of treatment at English NHS trusts for people diagnosed in 2023

| | NOLCP Target | Number of individuals | Median (Inter Quartile Range) | % people who started treatment within target |
|---|---|---|---|---|
| Surgery in Non-Small Cell Lung Cancer (NSCLC) Stage 1/2 - from referral to treatment | 49 days | 4150 | 83 days (63 to 111) | 11% |
| Systemic anti-cancer therapy (SACT) in NSCLC Stage 3B-4 - from referral to treatment | 49 days | 2996 | 66 days (51 to 87) | 23% |
| SACT in people with Small Cell Lung Cancer (SCLC) - from diagnosis to treatment | 14 days | 1355 | 15 days (9 to 25) | 48% |

## 2.5 Curative treatment for non-small cell lung cancer in England

**Key messages:** The number of people with NSCLC who had surgery with curative intent was 7,018 in 2023, an increase from 5,865 people in 2022. This corresponds to 20.4% of people with NSCLC diagnosed in 2023 having surgery compared with 17.8% in 2022. The rates of surgical resection within Cancer Alliances ranged from 15% to 39% (IQR 18-22%).

The proportion of people with stage 1/2 disease and a good performance status (PS 0-2) who had curative treatment was 80.0%, meeting the NLCA standard of 80%. Cancer Alliances with comparatively low curative intent treatment rates for stage 1–3A patients could benefit from exploring ways to ensure that these individuals are offered the most appropriate curative intent treatments.

People with stage 1/2 lung cancer, and a good performance status (PS 0-2) are candidates for treatments with curative intent. The proportion of people treated with curative intent has been unchanged since 2021 at 80%. There was substantial variation across NHS trusts (Table 5).

People with stage 3A NSCLC and a good performance status (PS 0-2) can be considered for treatment with curative intent. In 2023, only 60% of these individuals were offered curative intent treatments with the remaining 40% receiving either palliative intent therapies or best supportive care.

**Table 5.** Performance on curative intent treatment indicators for people diagnosed with non-small cell lung cancer (NSCLC) in England in 2023

| | NLCA target | 2023 | No. of NHS trusts above target (n=124) |
|---|---|---|---|
| Proportion of people with NSCLC undergoing resection surgery | ≥17% | 20.3% | 58 |
| Proportion of people with NSCLC who had curative treatment (Stage 1/2, PS 0–2) | ≥80% | 80.0% | 71 |
| Proportion of people with NSCLC who had curative treatment (Stage 3A, PS 0–2) | N/A | 60.3% | N/A |

## 2.6 Systemic anti-cancer therapy rates for people with NSCLC stage 3B-4 with good performance status in England

**Key messages:** The proportion of people with NSCLC (stages 3B-4, PS 0–1) who received systematic anti-cancer therapy has changed little between 2021 and 2023, with 61.6% of these people having SACT in 2023. The NLCA audit standard of 65% for this indicator was met or exceeded by 55 of 124 NHS trusts (44%). NHS trusts should monitor their performance against the NLCA standard and ensure there is adequate capacity to deliver SACT for people who are sufficiently fit to receive SACT.

Clinical trials have demonstrated that systemic anti-cancer therapy can extend survival, improve cancer related symptoms, and quality of life for people with advanced NSCLC. In 2017, the NLCA set an audit standard that at least 65% of people with NSCLC stages 3B-4 and a good performance status (PS 0–1) should receive SACT. The proportion of people diagnosed with advanced NSCLC receiving SACT was 61.6% in 2023, compared with 61.1% in 2021 and 60.7% in 2022. The proportion of people with advanced NSCLC with fair/good performance status (PS 0-2) that had SACT was 51.5% in 2023. See NLCA dashboard for regional and organisational figures.

## 2.7 Systemic Anti-Cancer Therapy for small cell lung cancer in England

**Key messages:** In 2023, 73.3% of people with SCLC received systemic anti-cancer therapy (SACT), and 66 out of 103 eligible NHS trusts (61%) met or exceeded the NLCA target (=70%). NHS trusts should monitor their performance against the NLCA standard and ensure there are necessary resources for timely access to SACT, particularly in relation to diagnostic and molecular pathology capacity.

Small cell lung cancer (SCLC) is a particularly aggressive type of lung cancer and people with SCLC are often diagnosed at an advanced stage. In 2017, the NLCA set an audit standard that at least 70% of people with SCLC should receive SACT. Overall, 73.3% of people with SCLC had SACT in 2023, which was little changed from the level in 2022 (73.2%). There was some variation in treatment patterns across NHS trusts, with 66 out of 103 eligible NHS trusts (61%) having more than 70% of patients having SACT (See NLCA dashboard).

**Genetic testing for people with stage 4 non-small cell lung cancer in England 2017-2021**

The NLCA was supplied with information on genomic testing among people with non-small cell lung cancer (NSCLC) linked to gold standard cancer registration data. We used these data to explore the use of genomic testing in people with stage 4 NSCLC and describe oral targeted tyrosine kinase inhibitor (TKI) treatments which patients received if identified with either an epidermal growth factor receptor (EGFR) mutation or anaplastic lymphoma kinase (ALK) gene rearrangement. Data was provided from genomic testing hubs only and not from local testing.

Between 2017 and 2021, approximately 25% of people with stage 4 NSCLC (PS 0-1) were recorded as having undergone genomic testing each year. The use of next-generation sequencing (NGS) increased from 11% of tests done in 2017 to 23% in 2021.

- In people with stage 4 EGFR mutation positive NSCLC, 79% of those with good performance status (PS 0-1) received either gefitinib, erlotinib, afatanib, or osimertinib.
- In people with stage 4 ALK gene rearrangement positive NSCLC, 45% of those with good performance status (PS 0-1) received either crizotinib, ceritinib, alectinib, brigatinib, or lorlatinib.

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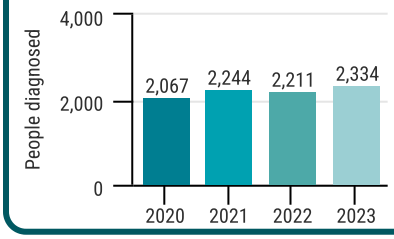
# Summary of results for patients diagnosed in Wales 2023

**Key**
- improving from 2022
- worsening from 2022
- unchanged from 2022

## Diagnosis & staging

**2,334**
people were diagnosed with lung cancer in 2023




**34%** ↑ of patients were diagnosed at **stage 1/2**
**30%** in 2022, **24%** in 2021 & **27%** in 2020

**45%** ↓ of patients presented **with stage 4 lung cancer**
**47%** in 2022, **50%** in 2021 & **49%** in 2020

**27%** ↓ of patients were diagnosed **after emergency admission**
**39%** in 2022, **24%** in 2021 & **28%** in 2020

### Waiting times in NSCLC

**97** days
Median time from referral to **surgery** in NSCLC stage 1/2

**78** days
Median time from referral to **SACT** in NSCLC stage 3B-4

## Treatment allocation

### Treatment with curative intent for Non-Small Cell Lung Cancer (NSCLC)

**77%** ↑ of patients with NSCLC (stage 1/2, Performance Status (PS) 0-2) received treatment with curative intent*

*surgery or radical radiotherapy

**≥80%** ✗ Audit standard

**76%** in 2022
**67%** in 2021
**68%** in 2020

**67%** ↑ of patients with NSCLC (stage 3A, PS 0-2) received treatment with curative intent**

**surgery, radical radiotherapy or multimodal treatment

**N/A**

**61%** in 2022
**61%** in 2021
**48%** in 2020

### Surgery for Non-Small Cell Lung Cancer (NSCLC)

**18%** ↑ of patients with NSCLC had surgical treatment for their cancer

**≥17%** ✓ Audit standard

**14%** in 2022
**13%** in 2021
**11%** in 2020

### Systemic Anti-Cancer Therapy (SACT) for Non-Small Cell Lung Cancer (NSCLC)

**55%** ↓ of patients with NSCLC (stage 3B - 4, PS 0-1) received SACT

**≥70%** ✗ Audit standard

**60%** in 2022
**57%** in 2021
**53%** in 2020

### Systemic Anti-Cancer Therapy (SACT) for Small Cell Lung Cancer (SCLC)

**65%** ↓ of patients with SCLC received treatment with SACT

Median time from 'decision to treat' to start SACT: 15 days

**≥70%** ✗ Audit standard

**71%** in 2022
**71%** in 2021
**58%** in 2020

### Survival outcomes

2,334 patients were diagnosed between 1 January and 31 December 2023. For these patients:

**Median survival**

**301 days** ↑

**262** days in 2022
**222** days in 2021
**224** days in 2020

**One year survival**

**46%** ↑

**43%** in 2022
**39%** in 2021
**40%** in 2020

## Data quality

### Completeness of key routine data items***

***information on smoking status unavailable

| Stage | Performance status | Basis of diagnosis | Morphology | Lung Clinical Nurse Specialist at diagnosis |
|---|---|---|---|---|
| 99% | 100% | 100% | 69% | 98% |
| 90% ✓ Audit standard | 90% ✓ Audit standard | 90% ✓ Audit standard | 75% ✗ Audit standard | 90% ✓ Audit standard |

# 3. Results for Wales (2023)

## 3.1 Source of Welsh data and data completeness

The Welsh results contained in this report were derived using the standard dataset collected through the Cancer Network Information System Cymru (CANISC). The figures should not be compared to the English data which is derived from the Rapid Cancer Registration Dataset (RCRD).

The analysis included 2,334 people diagnosed with lung cancer in Wales in 2023. The completeness of the key data items in the Welsh data was excellent. The levels of completeness for the 2,334 patients analysed were: 99.1% for disease stage, 99.8% for performance status, 100% for basis of diagnosis and 69.2% for morphology among all patients (99.8% complete among people with histology diagnosis). 98.1% of records had data on whether a lung cancer nurse specialist was present at diagnosis. Data was not provided for the ethnicity or smoking status data items.

In 2023, the proportion of lung cancers proven to be small cell lung cancers (SCLC) was 9.3%. The median age at diagnosis was 74 years overall (IQR: 67 – 80) and was 74 and 72 years for patients with NSCLC and SCLC tumours. 49.4% of patients were male and 50.6% female. Among patients with known values in 2023, the proportion of patients with stage 4 disease was 44.8% (50.3% in 2021, 47.0% in 2022), while the proportion with stage 1/2 disease was 33.9% (24.0% in 2021, 30.0% in 2022). The proportion of patients with performance status 0-1 was 43.4% (40.6% in 2021, 41.9% in 2022).

## 3.2 NLCA performance indicators in Wales

**Key messages:** The analysis of data from 2,334 patients diagnosed with lung cancer in 2023 found:

- The percentage of people with lung cancer who are diagnosed with stage 1/2 disease was 33.9%, an increase on 24.0% in 2021 and 30.0% in 2022. The percentage of people diagnosed with stage 4 disease was 44.8% (46.9% in 2022).
- The proportion of people with lung cancer diagnosed after an emergency admission was 26.6%, compared to 29.4% in 2022.
- The proportion of people with a pathological diagnosis of lung cancer was 94.2%, above the NLCA target of 90%.
- The proportion of patients seen by a LCNS was 94.9% (92.4% in 2022).
- Curative treatment rates of NSCLC patients with stage 1/2 and good performance status (0-2) was 76.5% (76.2% in 2022). For NSCLC patients with stage 3A disease, curative treatment rate was 66.7% (61.2% in 2022).
- The surgical resection rate for people with NSCLC was 17.5%, up from 14.0% in 2022.
- The use of systemic anti-cancer therapy (SACT) for stage 3B-4 NSCLC patients (PS 0–1) was 55.2% in 2023, below the audit standard (70%) and a fall from 60.1% in 2022.
- The proportion of people with SCLC who had SACT in 2023 was 64.5% (71.0% in 2022).
- The median time from diagnosis to SACT for patients with SCLC was 21.5 days (IQR: 14-33).
- The median time from referral to surgery in patients with NSCLC Stage 1/2 was 97 days (IQR: 74 to 126); the median time from referral to SACT in patients with NSCLC Stage 3B-4 was 77.5 days (IQR: 60 to 101).

# 4. Survival after cancer diagnosis

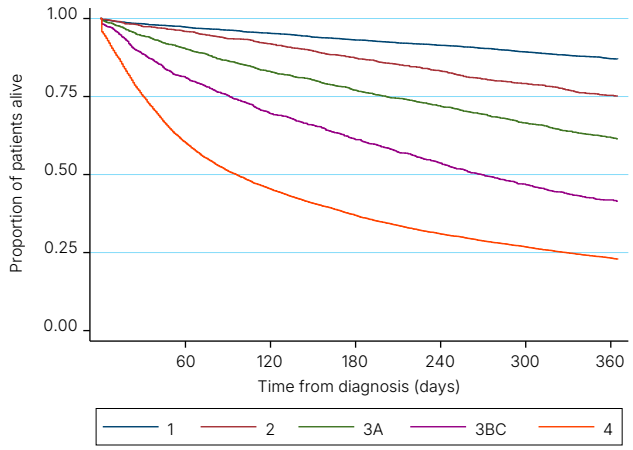
In this report, we describe survival for the 18,653 people diagnosed in England between 1st January and 30th June 2023. Median survival was 358 days (95% CI: 343 to 373). The proportion of people who survived at least one year was 49.6% overall (95% CI: 48.9% to 50.3%). Figure 2A shows survival by stage at diagnosis and Figure 2C shows the risk-adjusted 1-year mortality rates for the cancer alliances. There were no outlying cancer alliances.

Survival estimates for England should be interpreted cautiously as the most recent rapid cancer registration data may have incomplete mortality data and miss people who do not have hospital-based treatment. Last year we reported median survival of 327 days for people diagnosed in England between January and June 2022; repeating this analysis of the same time period using current data gives median survival of 281 days.

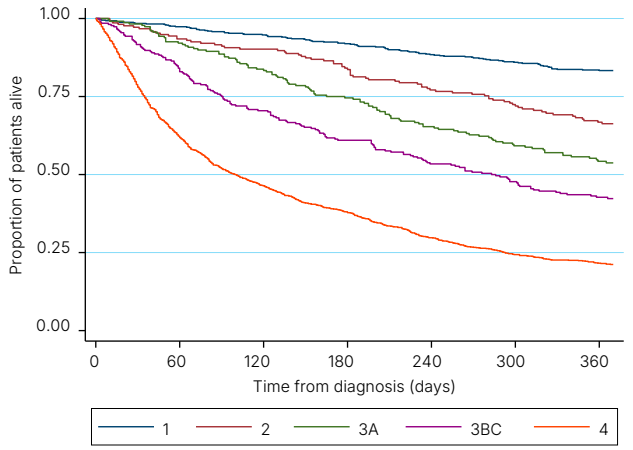
For patients diagnosed with lung cancer in Wales during 2023, the median survival was 301 days (95% CI: 279 to 326) and 1-year survival in this cohort was 46.4%. Survival by stage for 2023 is shown in Figure 2B. The median survival for patients with stage 4 disease was 100 days (CI: 84 to 117). Figure 2D also shows risk-adjusted 1-year survival rates for the Welsh hospitals for patients diagnosed in 2023; there were no outlying hospitals in Wales. See NLCA website for more details.

**Figure 2.** Kaplan Meier survival curves from people diagnosed in England (January to June 2023) and Wales (January to December 2023) stratified by disease stage and risk-adjusted estimates for English Cancer Alliances and Welsh hospitals.

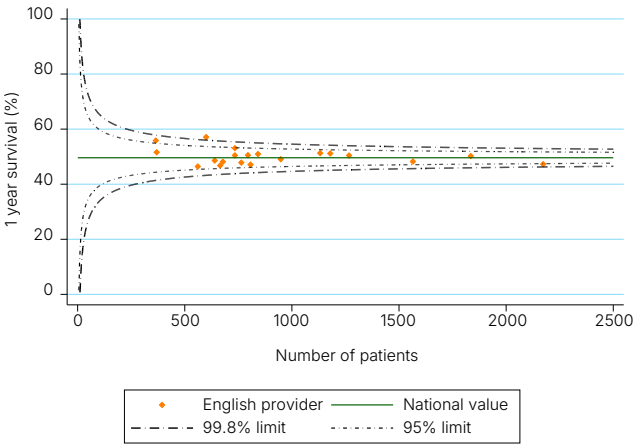
(A) England (Jan–June 2023*), by disease stage



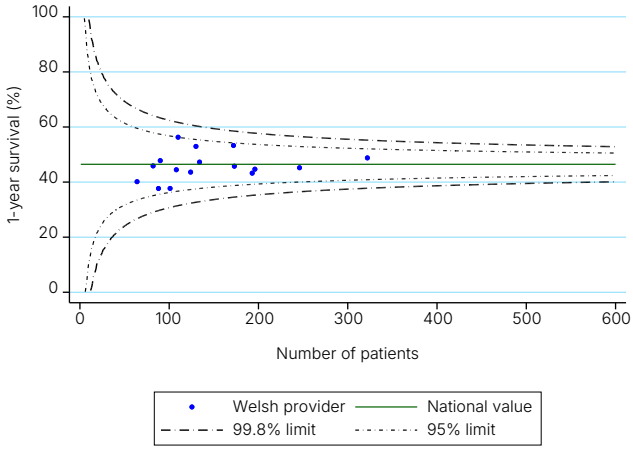

(B) Wales (Jan–Dec 2023), by disease stage




(C) English Cancer Alliances (Jan – Jun 2023)




(D) Welsh hospitals (Jan-Dec 2023)



# 5. Commentary

This State of the Nation report describes the patterns of care received by people with lung cancer diagnosed in England and Wales during 2023. People are analysed based on their place first seen, either an English NHS trust or Welsh hospital (see methodology supplement), which is a change from the previous report. The report also incorporates cancer waiting times and genomics data. The report has focused on the overall national figures. The indicator values for the NHS organisations can be found on the online dashboard. It is essential that NHS trusts and cancer alliances in England and NHS hospitals and health boards in Wales use the dashboard and additional online materials to review their performance and, where necessary, initiate local quality improvement activities. The dashboards should also be used to monitor data quality. Particularly attention should be given to 'smoking status', and 'patient seen by lung cancer CNS' in the English Rapid Cancer Registration Dataset.

An important and encouraging finding from this report is that the proportion of people diagnosed with stage 1/2 lung cancer has continued to increase; in England, the proportion was 36.7% in 2023, an increase from 30.5% in 2021. For Wales, the proportion increased from 24.0% in 2021 to 33.9% in 2023. The stage information in the English RCRD combines both clinical and pathological stage information, and this needs to be recognised when interpreting the figures. Nonetheless, this increase is likely to reflect the introduction of the Lung Cancer Screening Programme in England as well other early diagnosis initiatives in England and Wales.

The proportion of people with early-stage lung cancer (stage 1/2) who had curative treatment reached 80% among those with good performance status (PS 0-2). This means the NLCA standard of 80% has been met for the first time since before the COVID-19 pandemic in 2019. The proportion of people with NSCLC who had surgery also exceeded pre-pandemic levels. This change has occurred in conjunction with the increase in people diagnosed with stage 1/2 cancer, and represents a significant increase in demand. There were 7,382 people with NSCLC who had surgery with curative intent in England and Wales during 2023, which was up from 6,141 in 2022. However, this growth in demand is likely to be one of the reasons why the time to surgery exceeded 49 days for seven out of eight people with NSCLC (stage 1/2) in England. With the continued rollout of the Lung Cancer Screening programme, NHS lung cancer services should urgently review thoracic surgery capacity to ensure the likely increase in demand for surgical resection can be accommodated.

The time from referral / diagnosis to treatment remains a concern in other parts of the care pathway. In England, the median time was 36 days among people who had surgery, SACT or curative radiotherapy, and the median time from diagnosis to treatment exceeded 31 days in 16 Cancer Alliances. A possible contribution to the delays are changes in the treatment pathways due to expanded demand for molecular testing among some patient subgroups. Additional resources are required to allow NHS trusts to achieve the latest service specification and NOLCP standards, particularly in relation to diagnostic and molecular pathology. Other areas in which clinical performance requires improvement include: curative intent treatment rates for people with stage 3A NSCLC and good performance status (PS 0-1), and importantly SACT treatment rates for people with advanced disease and good performance status (PS 0-1).

For the first time, the NLCA State of the Nation report has featured data on genomic testing and oral tyrosine kinase inhibitor (TKI) treatment rates for people with stage 4 NSCLC in NHS England. The report highlights a rise of NGS testing within NHS England between 2017 and 2021, but that extent of testing was below expected levels. This may reflect that testing can be carried out locally (as well as in "Genetic Laboratory Hub" services) and our data source did not cover local testing. NICE guidance [NG122] recommends testing for mutations in the EGFR gene and assessing for ALK fusion oncogenes in all people with advanced non-squamous NSCLC. Molecular testing in NSCLC is essential for identifying specific genetic alterations, such as EGFR mutations and ALK rearrangements, which can be effectively targeted by oral TKIs which have shown superiority to traditional SACT such as chemotherapy. This report has also revealed that 20% of EGFR mutation positive patients, and 55% of ALK positive patients (with PS 0-1) did not receive gold standard oral targeted TKI treatments. These oral targeted therapies offer a personalised approach to NSCLC management which enhances treatment efficacy and improves patient outcomes. Without molecular testing, patients may receive less effective standard treatments, leading to suboptimal results and unnecessary side effects. Therefore, it is imperative that adequate resources are directed towards molecular diagnostic services within the NHS (whatever configuration of local or Hub testing is used) to ensure optimal patient identification, treatment selection, and to reduce inequity in care. The NHS needs to embed a modern, individualised and scientific approach to the care of people with NSCLC.