NHS
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National Lung Cancer Audit

Key findings about the quality of care for people with Lung Cancer in England and Wales incorporating headline and completeness data from Scotland

Report for the audit period 2007

Prepared in association with:

HQIP
Healthcare Quality Improvement Partnership

Royal College of Physicians
Setting higher medical standards

Contents

1.0 Acknowledgements

The National Lung Cancer Audit (NLCA) is managed by the National Clinical Audit Support Programme (NCASP). It is commissioned and sponsored by the Health Quality Improvement Programme (HQIP). It was developed in partnership with the Clinical Effectiveness and Evaluation Unit (CEEU) at the Royal College of Physicians (RCP).

In 2008 the NLCA was saddened by the death of Nic Chanarin who was one of the clinical leads for the audit. He is greatly missed by the members of the Project Team who would like to acknowledge his invaluable contribution to the audit.

Since the commencement of the audit a number of key individuals have provided considerable contributions to its progress and development. These include the NLCA Project Team; Clinical Leads Mick Peake and Paul Beckett, Project Manager Roz Stanley, Senior Project Manager Steve Dean, Data Managers Nancy Horseman, Simon Pearce and Arthur Yelland, Project Support Officer Graeme Aldington, and former Project Support Officer Zahid Qayyum.

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2.0 Foreword

The National Lung Cancer Audit has reached an important stage in its development. Case ascertainment in England and Wales has improved once again and now stands at around 75%, compared with 40% in 2005. Data quality is also improving with substantial increases in the proportions of cases with stage and treatment being recorded. This means that meaningful analysis of the quality and outcome of care can now be made at a national level and comparisons between networks and Trusts become possible.

However, there is still room for improvement. A small number of Trusts failed to submit data for this year's audit and others submitted much lower numbers of cases than would be expected.

I warmly welcome the inclusion of data from Scotland for the first time this year. Both Scotland and Wales and several of the networks in England are showing what can be achieved in terms of case ascertainment. Trusts and networks in other parts of England should take note.

Two things struck me on reading this report. First, the quality of care being delivered to patients appears to be improving. Second, there is still a large scope for improvement by bringing all Trusts and networks up to the standard of the best.

Although caveats must be expressed because of the incompleteness of data in previous years, it is encouraging that the proportion of patients being reviewed by a multidisciplinary team is increasing (from 78% in 2005 to 87% in 2007), as is the proportion of all patients receiving some form of anticancer treatment (up from 43% to 51%).

The scope for further improvement is shown by the wide variations in outputs and outcomes at a network level. For example, two networks reported that less than 30% of patients received any anticancer treatment, while six networks in England and two in Scotland reported that more than 60% received anticancer treatment. In relation to surgery for non-small cell lung cancer, resection rates were below 5% in 8 networks and above 15% in a further 8 networks. Low resection rates may represent late presentation to hospital and/or poor access to surgery. In either case these low rates merit investigation. Wide variations in the proportions of patients receiving chemotherapy for small cell lung cancer were also reported. Most importantly significant variations in survival are also observed between networks.

I would encourage all networks and Trusts to review their own data and to take action, especially if they fall below the helpful benchmarks set out at the end of this report.

Professor Mike Richards CBE
National Cancer Director

3.0 Executive Summary

Key Messages

- This is the third Annual Report of the National Lung Cancer Audit and covers patients first seen in 2007. The audit has captured data on more than 26,000 patients in the UK for this audit period, representing over 75% of the expected incident cases. By the end of June 2008, all networks in England, Wales and Scotland were contributing to the audit and only one trust (in England) had never contributed.

- The quality of the submitted data has improved compared with previous years allowing more detailed comparison of organisations to be reported. Overall, measures of process and outcome of care appear to be improving slowly but still appear to be below those reported from other Western European countries.

- Despite these improvements, there remains a wide variation across trusts and networks. Casemix does not appear to explain the whole of this variation.

    1. Histological confirmation of the cancer diagnosis is made in 68 per cent of patients but varies from less than 20 per cent to more than 85 per cent. Based on the performance of Trusts in previous years, a histological confirmation rate of at least 75 per cent is a reasonable benchmark for acceptable practice and the overall confirmation rate is lower than would be expected. Organisations need to review their diagnostic strategies and ensure they have access to the full range of biopsy techniques.

    2. The overall unadjusted lung cancer resection rate is 10 per cent but varies from less than 5 per cent to more than 25 per cent. Organisations need to review their pathways for decisions on, and referral for lung cancer surgery, for example by increasing access to thoracic surgical expertise at multidisciplinary meetings.

    3. Active anti-cancer treatment is offered to 51 per cent of patients overall, but this figure varies from less than 10 per cent to more than 70 per cent. Organisations need to review their pathways for decisions on, and referral for oncological treatment, for example by reviewing their local treatment policies in light of national guidance.

There is an urgent need for organisations to take ownership of their data and utilise it to review their local lung cancer services. This report contains a toolkit to assist in this process.

Details of the Chapters

- Chapter 4 covers the background to the audit and this particular annual report. It sets out the reasons why national audit is important and gives some clinical information to enable non-specialists to better understand the information presented later in the report.

- Chapter 5 covers the limitations of the report, by discussing the limitations of the data therein. For meaningful analysis of the data, in particular casemix adjustment and comparison of organisations, the data needs to be as complete as possible. By June 2008, all networks in England, Wales and Scotland were contributing to the audit and only one trust (in England) had never contributed. The overall number of cases submitted to the audit has grown from approximately 10,000 from England alone in 2005 to 22,628 from England and Wales for the year in question, representing 75 per cent of the expected frequency. A further 3,524 cases from Scotland (88 per cent of expected) further enhances the dataset. This is the first time data from Scotland's lung cancer audit is included. Due to differences in reporting schedules and agreed standards and targets the Scottish data is tabulated separately and this year focuses on five key measures. Furthermore, the quality of the data is improving with, for example, stage field completeness rising from 47 per cent in 2005 to 59 per cent in 2007 and a corresponding rise in recording of treatment from 66 per cent to 79 per cent.

- Chapter 6 looks more closely at the number of lung cancer patients across different groups such as histological type, age, sex, stage, performance status and co-morbidity. Of the 22,628 cases analysed from England and Wales, 9.9 per cent were small cell lung cancer, 4.8 per cent were mesothelioma and the remaining 85.3 per cent were either histologically confirmed non-small cell lung cancer (54.1 per cent) or patients in whom the diagnosis was made on clinical ground (45.9 per cent- the vast majority of which can be assumed

to have non-small cell lung cancer). 59 per cent of patients were male and 41 per cent were female, with an age-range similar to previous years. The majority of cases are diagnosed between ages 60-85. Patients most often present with Stage IV (metastatic disease) but more patients have good performance status (0-1) than poor performance status (2-4). There are a variety of important co-morbidities in these patients.

- Chapter 7 examines the pathway for lung cancer patients. Almost half (47 per cent) are referred to a specialist from their primary care physician but a significant proportion are referred via other routes including after an emergency presentation. The chapter contains details by Network and Trust of the times taken between referral to first specialist appointment and between first appointment and initial treatment. Overall the median wait between referral and first appointment is 6 days (interquartile range 0-11 days). The median wait between first appointment and initial treatment is 29 days (interquartile range 15-49 days), being longer for GP referrals (median 35 days) than non-GP referrals (median 23 days). These intervals are not the same as those recorded under the Department of Health's Cancer Waiting Times initiative.

- The overall aim of the National Lung Cancer Audit is to record information about process and outcomes in lung cancer and through casemix adjustment, start to explain the wide variations in outcome that have been noted in previous studies. Chapter 8 is devoted to those measures of process and outcome that are of key importance in lung cancer.

  For England and Wales, the proportion of patients who have a histological/cytological diagnosis is 67.7 per cent. Based on the performance of cancer units in previous years, a histological confirmation rate of at least 75 per cent would seem a reasonable benchmark of acceptable practice and so the overall confirmation rate is lower than would be expected. Furthermore, this average figure hides wide variation across organisations. Scottish data shows an overall higher confirmation rate with less variation. The proportion of patients that are discussed in an MDT meeting in England and Wales is 87.2 per cent. These results fall short of the national target of 100 per cent, although it is acknowledged that a target of 95 per cent is probably more appropriate.

  Again, there is a wide variation in practice across organisations. Analysis of treatment rates show that in England and Wales, 51.3 per cent are recorded as receiving active anti-cancer treatment (62.3 per cent in Scotland) with 9.9 per cent having surgical resection (9.7 per cent in Scotland). For patients with SCLC, 61.9 per cent are recorded as receiving chemotherapy. Once again, these averages hide wide variation across trusts and networks. Casemix adjustment using age, deprivation, performance status and stage has been applied to these quality measures, as well as to measures of median survival, and they demonstrate that the wide variations between organisations cannot, in general, be explained by casemix factors. Organisations need to examine their own results and use them to assess the need for local service improvement.

  Encouragingly, measures of the quality of care do appear to be improving over the life of the National Lung Cancer Audit, with year-on-year increases in the proportions of patients discussed at an MDT, having histological confirmation, and having anti-cancer treatment or surgical resection.

- Chapter 9 lists recommendations based on the results of the audit. These are listed below (further details are given in the chapter):

  1. All trusts should ensure that they participate in this national audit

  2. Data on all patients diagnosed with either lung cancer or mesothelioma are submitted to the audit

  3. All relevant data fields are completed for each patient

  4. Actual completeness of at least 75 per cent should be achieved for key data fields including stage and performance status

  5. Over 95 per cent of patients submitted to the audit are discussed at an MDT

  6. The Histological/Cytological Confirmation Rate is at least 75 per cent

  7. Over 60 per cent of patients are seen by a lung cancer specialist nurse

8. Over 40 per cent of patients have a lung cancer specialist nurse present at the time of diagnosis

9. Surgical resection rates below the national mean of 10 per cent must be reviewed

10. Active anti-cancer treatment rates below the national mean of 51 per cent should be reviewed

11. Chemotherapy rates for small cell lung cancer below the national mean of 62 per cent should be reviewed.

A local action planning toolkit is provided (figure 9.1) to assist organisations in benchmarking against these quality measures. All organisations are encouraged to use the audit data to drive their service development in order to improve the standard of care for lung cancer patients.

4.0 Background Information on Lung Cancer

4.1 Summary

This chapter covers the background to the audit and this annual report. It sets out the reasons why the national audit is important and gives some clinical information to enable non-specialists to better understand the information presented later in the report.

4.2 What Is Lung Cancer?

Lung cancer is the commonest cause of cancer death in the Western world with around 38,500 cases diagnosed each year in the UK [(1)]. Although between 85 and 90 per cent of cases of lung cancers are associated with cigarette smoking, over 4,000 deaths each year occur in individuals who have never smoked.

Overall the outcome for patients with lung cancer is poor and long term survival has not improved greatly in recent years. However people diagnosed at an early stage have a better prognosis, largely as a result of being suitable for radical surgery; indeed the majority of patients who survive beyond 5 years do so as a result of the surgical resection of their tumours. However, a number of other treatments including chemotherapy, radiotherapy and a combination of treatments can have a major impact on symptoms and lead to significant improvements in the duration of survival.

4.3 What Is The Purpose Of This Report?

Data obtained from the Office for National Statistics between 1991 and 1995 showed a four-fold difference in 5 year survival rates between the better and poorer 'performing' regions for patients diagnosed with lung cancer [(2)]. These were alarming findings and it is unclear to what extent such variation can be explained by casemix variables (i.e. patients diagnosed later with more advanced disease or multiple co-morbidities) and to what extent they are the result of differences in standards of specialist care. It was in light of these findings that the need for a National Lung Cancer Audit (NLCA) was established. The audit began to collect data in England in 2004 with its first full year of data collection in 2005. This report is the third "Annual Report" based on the National Lung Cancer Audit findings. Further details about the audit are not included here, but can be obtained from previous Annual Reports which can be downloaded from http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/cancer.

The audit aims to record information about process and outcomes in lung cancer and through casemix adjustment start to explain these wide variations in outcome. Although the Cancer Registries have collected data on lung cancer since the 1970's they have limited information on a number of important factors, including casemix variables and treatment. Although some casemix information is contained in Hospital Episode Statistics (HES) and the similar Patient Episode Database Wales (PEDW), these sources do not collect clinical data at the level of detail needed for clinically relevant national comparison. Indeed this is one of the unique, vital contributions of the National Lung Cancer Audit.

In Scotland, following a national study of the management of lung cancer, a similar process for audit of lung cancer in the three Scottish cancer networks was initiated from 1999, collecting an agreed dataset covering process and outcomes.

4.4 What Proportion Of The Lung Cancer Population Does This Report Cover?

The NLCA 2008 report presents data submitted on lung cancer and mesothelioma patients first seen for their disease in 2007. As shown in the later analysis, 24,048 patient records were submitted to the audit from England and Wales. This represents approximately 75 per cent of the expected annual incidence. A further 3524 cases from Scotland are included in some of the analyses (88 per cent of their expected incidence) contributing to a fuller UK view. Data on mesothelioma is not yet collected as part of national audit in Scotland.

4.5 What Are The Different Types Of Lung Cancer?

There are several different types of lung cancer, defined by the area of the lung that is affected and the size and type of cells that make up the cancer. These different subtypes of lung cancer are commonly divided into three main groups – small cell lung cancers (SCLCs), non-small cell lung cancers (NSCLCs) and mesothelioma. Throughout this report, lung cancer data will be reported for the following subgroups: small cell lung cancers, mesothelioma, and all cancers excluding small cell cancer and mesothelioma (NSCLC).

Small cell lung cancers

Small cell lung cancers usually grow in the main airways (left or right bronchus) in the centre of the chest. They are the most aggressive form of the disease, growing more rapidly and having greater potential to spread to other parts of the body (metastasise) early in their development than other types of lung cancer. Virtually all patients with small cell lung cancer have a smoking history.

Non-small cell lung cancers

The remaining forms of lung cancer form a heterogeneous group known as "non-small cell lung cancers". Non-small cell lung cancers are typically slower to grow and spread compared to small cell lung cancer, and as a result they tend to have a slightly better prognosis. This category of lung cancer includes squamous cell carcinomas, adenocarcinomas and large cell carcinomas, along with a range of less common subtypes.

Mesothelioma

Mesothelioma is a cancer which almost always arises in the membrane around the lungs (the pleura), but can also develop in the lining of the abdomen (the peritoneum). With the current incidence of mesothelioma in the UK being approximately 2100 cases per annum, it is much less common than lung cancer, however its incidence is increasing and is predicted to peak around 2015. The vast majority of cases are related to exposure to asbestos fibres resulting in a strong association with certain occupations, and hence a very wide regional variation in its incidence. There is a long 'lag time' between exposure to asbestos and the development of the disease, the median interval being around 40 years. Sadly mesothelioma is almost universally fatal, but modest advances have been made in treatment which can prolong life and control symptoms in a proportion of patients.

4.6 What Are The Symptoms Of Lung Cancer?

The symptoms of lung cancer can be very non-specific, but may include persistent cough, the coughing of blood, breathlessness and chest pain. The non-specific nature of lung cancer symptoms is responsible for delays to diagnosis in a proportion of patients. The delay in diagnosis means that by the time they reach specialist care, many patients are found to have disease at an advanced stage which cannot be cured.

4.7 What Treatments Are Offered To Lung Cancer Patients?

Generally speaking, there are four modalities of treatment for lung cancer:

- Surgery
- Radiotherapy
- Chemotherapy
- Palliative Care.

Increasingly, more than one modality is used for an individual patient e.g. surgery followed by chemotherapy, chemotherapy followed by radiotherapy, or simultaneous radiotherapy and palliative care. Treatment options are usually discussed with the patient, along with their risks and benefits, to allow an informed decision to be made. There is a group of newer treatments generally known as the "targeted" or "biological" agents, such as the Epidermal Growth Factor Receptor inhibitors (e.g erlotinib) which are likely to be of increasing importance in coming years. The use of these agents was not approved by the National Institute for Health and Clinical excellence (NICE) in England and Wales in the audit period covered by this report and the audit does not currently collect data about their use.

4.8 What Other Factors Are Important in Lung Cancer Patients?

With the average age at diagnosis being over 70 years and the high prevalence of smoking, there is a high incidence of co-morbidities in lung cancer patients especially Chronic Obstructive Pulmonary Disease (COPD), Ischaemic Heart Disease (IHD) and Cerebrovascular Disease (CVD). This renders a significant proportion of patients unfit for radical treatment even though the disease itself may be at an early and potentially curable stage. The overall fitness of a patient is measured using a scale called performance status. The spread of performance status is detailed in Chapter 6.

As mentioned earlier, the non-specific nature of symptoms means that there is often a delay in diagnosis. As such the stage of the disease at diagnosis may be too advanced to allow curative treatment. Chapter 6 also details the proportion of cases by stage.

Lung capacity and co-morbidities are also important measures in determining whether or not a patient is suitable for active treatment. Whilst these are partly reflected in the performance status score, information about lung function tests and co-morbidity gives more information about the fitness of an individual patient. Unfortunately these data were poorly recorded in this cohort of patients with less than one third of patients having data entered and hence were not used in the analyses.

5.0 Limitations Of This Report – How Good Is The Data?

5.1 Summary

Chapter 5 covers the limitations of the conclusions of the report, by discussing the limitations of the data from which they are derived. For meaningful analysis of the data, in particular casemix adjustment and comparison of organisations, the data must be as complete as possible. By the end of June 2008, all networks in England, Wales and Scotland were contributing to the audit and only one trust (in England) had never contributed.

The overall number of cases submitted to the audit has grown from approximately 10,000 from England alone in 2005 to 22,628 from England in Wales for the year in question, representing approximately 75 per cent of the expected number of cases. A further 3,524 cases from Scotland (88 per cent of expected) further enhances the dataset. This is the first time data from Scotland's lung cancer audit are included. Due to differences in reporting schedules and agreed standards and targets the Scottish data is tabulated separately and this year focuses on five key measures.

Furthermore, the quality of the data is improving with, for example, stage field completeness rising from 47 per cent in 2005 to 59 per cent in 2007 and a corresponding rise in recording of treatment from 66 per cent to 79 per cent.

5.2 Identification Of Units For Patient Responsibility

In England, information on organisations that manage patients with lung cancer was initially provided by cancer networks with supporting information from the Cancer Registries. Identifying hospitals that participate in the NLCA is complex because in some regions data is provided and uploaded by cancer networks or by trusts uploading on behalf of other trusts. One of the important challenges for the audit has been maintaining an up to date list of organisations that participate. In Wales the use of a single national cancer information system circumvents these challenges.

5.3 Data Completeness

Data submitted to the NLCA must be as complete as possible in terms of organisation, sample size and data fields both to ensure the representative nature of the population and to make casemix adjustment possible:

Organisation completeness

All organisations managing patients with lung cancer should submit data to the NLCA or ensure that another organisation is submitting data on their behalf. A national picture cannot be obtained while organisations fail to submit data. Furthermore it is frustrating for trusts who do submit data to find that their patient records are incomplete because another trust involved in the patient pathway does not.

Only one trust has never contributed data to the NLCA:

Cancer Network	Trust Name
N02 Greater Manchester and Cheshire	The Mid Cheshire Hospitals NHS Trust (RBT)

166 of 172 eligible trusts (96.5 per cent) in England and Wales have participated by uploading data on patients first seen in 2007. The following English trusts did not participate in the NLCA in 2007, although there may still be data on patients first seen at these trusts by virtue of data being submitted by other trusts. All Welsh and Scottish networks have participated in the audit.

Cancer Network	Trust Name
N07 Humber and Yorkshire Coast Cancer Network	Scarborough and North East Yorkshire Health Care NHS Trust (RV9 &RCC)
N13 Mid Trent Cancer Network	United Lincolnshire Hospitals NHS Trust (RWD)
N31 Central South Coast Cancer Network	Portsmouth Hospitals NHS Trust (RHU)
N35 Greater Midlands Cancer Network	Dudley Hospitals NHS Trust (RNA)
N37 Anglia Cancer Network	Cambridge University Hospitals NHS Foundation Trust (RGT)

5.4 Sample (Population) Completeness

Capturing data on the total incident population (or as near as possible to that total) in each organisation is central to the validity of the findings. Disproportionate representation of one particular patient group (e.g. those undergoing surgical resection) would make it difficult to properly compare the outcomes between organisations. Assessment of population completeness by each trust is made by comparing the number of cases submitted against historical cancer registry incidence data. Table 5.1 indicates the population completeness by trust and

network for England and Wales and is colour-coded to indicate whether trusts have performed satisfactorily against this measure (>50 per cent expected; green, 25-50 per cent expected; amber, <25 per cent expected; red). Changes in patterns of referral over time mean that the expected number of cases is an approximation and does not include mesothelioma cases, thus organisations may see more or less than 100 per cent of their expected number of patients. This usually evens out over a cancer network.

5.5 Data Field Completeness

Patient records submitted to the audit need as many data fields completed as possible in order that a robust casemix adjusted model of lung cancer care within the UK can be built. Key data fields for casemix adjustment are postcode (from which a deprivation index is derived), age, stage, performance status and co-morbidity. However, co-morbidity is not currently being utilised because, within the audit, its interpretation varies significantly between organisations (see chapter 7). Postcode and date of birth are automatically populated by the database. Table 5.1 indicates the data completeness for the key fields of stage and performances status (PS), again colour-coded to highlight satisfactory and unsatisfactory performance against this measure for patients first seen in 2007. A combined measure of completeness for PS and stage is also included. Finally the table also indicates the proportion of cases where a treatment has been recorded for a patient (including active monitoring) and the proportion of cases where it is recorded whether an MDT discussion has taken place.

5.6 Data Interpretation

For accurate interpretation, data provided to the audit must correspond to the definitions described in the audit user manual. Whilst everything has been done to standardise datasets, not all the data definitions used match directly with those used in the National Cancer Dataset (NCDS) or Cancer Waiting Times. The NLCA Team, via the Open Exeter helpdesk supports users in defining data items.

Table 5.1. Data completeness for key fields

Code	Number of cases	% of expected	Performance status (%)	Stage (%)	PS and stage (%)	MDT discussion field complete (%)	Treatment recorded (%)
N01	**519**	**52.5**	**11.9**	**23.3**	**7.9**	**87.1**	**81.1**
RTX	141	76.6	2.1	22.0	2.1	95.0	92.9
RXL	173	71.5	0.6	2.3	0.6	70.5	64.7
RXN	86	63.2	64.0	53.5	41.9	93.0	77.9
RXR	119	27.9	2.5	33.6	0.8	97.5	93.3
N02	**1145**	**53.7**	**60.5**	**48.5**	**32.6**	**66.1**	**58.7**
RBV*	1	0.6	100.0	0.0	0.0	100.0	100.0
RJN	79	88.8	89.9	55.7	49.4	69.6	88.6
RM2	52	16.2	50.0	44.2	23.1	75.0	38.5
RM3	196	145.2	26.0	47.4	17.3	68.4	22.4
RM4	6	6.7	83.3	50.0	50.0	83.3	16.7
RMC	179	91.3	88.8	51.4	47.5	73.7	86.0
RMP	122	93.8	55.7	45.9	29.5	56.6	88.5
RRF	115	71.4	73.9	78.3	62.6	58.3	37.4
RW3	110	106.8	60.9	34.5	15.5	82.7	75.5
RW6	279	53.2	56.3	39.8	25.8	57.0	52.7
RWJ	6	5.7	50.0	83.3	50.0	83.3	16.7
RBT	0	0.0	0.0	0.0	0.0	0.0	0.0

Code	Number of cases	% of expected	Performance status (%)	Stage (%)	PS and stage (%)	MDT discussion field complete (%)	Treatment recorded (%)
N03	**823**	**53.6**	**68.0**	**52.1**	**38.5**	**94.5**	**62.6**
RBL	135	113.4	19.3	44.4	11.1	95.6	50.4
RBN	161	72.9	80.1	32.3	25.5	99.4	80.1
RBQ	115	54.2	72.2	67.8	53.9	96.5	87.8
REM	43	13.3	74.4	62.8	51.2	100.0	65.1
RJR	128	105.8	100.0	74.2	74.2	100.0	35.2
RQ6	50	23.1	54.0	64.0	38.0	90.0	88.0
RVY	20	24.4	60.0	25.0	20.0	95.0	90.0
RWW	171	88.6	71.9	46.8	34.5	83.6	48.0
REN*	0	0.0	0.0	0.0	0.0	0.0	0.0
N06	**1604**	**88.6**	**47.5**	**46.0**	**37.1**	**95.5**	**84.0**
NT2	1	-	100.0	0.0	0.0	100.0	100.0
RAE	229	95.4	91.3	93.0	85.6	99.6	95.2
RCB	176	101.7	94.9	74.4	72.7	99.4	94.9
RCD	81	89.0	84.0	81.5	71.6	75.3	84.0
RCF	95	80.5	82.1	69.5	56.8	98.9	100.0
RR8	519	91.9	19.8	30.8	14.6	99.8	74.4
RWY	109	44.7	53.2	55.0	39.4	89.0	87.2
RXF	394	103.7	19.8	10.7	10.2	90.9	80.7
N07	**385**	**51.1**	**90.6**	**73.5**	**70.6**	**99.2**	**97.7**
RJL	68	30.1	50.0	50.0	35.3	98.5	95.6
RWA	317	79.1	99.4	78.5	78.2	99.4	98.1
RCC	0	0.0	0.0	0.0	0.0	0.0	0.0
N08	**1094**	**87.8**	**83.8**	**74.9**	**68.7**	**97.3**	**85.8**
RFF	48	36.6	8.3	27.1	6.3	97.9	33.3
RFS	172	98.9	98.3	65.1	64.5	98.8	99.4
RHQ	386	80.4	85.8	82.4	81.6	94.0	87.6
RP5	360	113.6	81.1	77.8	64.2	99.2	81.9
RFR	128	88.9	94.5	75.0	71.9	100.0	93.0
N11	**920**	**105.3**	**70.9**	**74.6**	**59.5**	**97.7**	**88.8**
RBK	154	97.5	95.5	88.3	85.7	98.1	82.5
RR1	264	124.5	58.3	76.5	48.1	94.3	89.8
RRJ	1	-	0.0	0.0	0.0	100.0	0.0
RRK	230	93.9	97.0	96.1	93.5	99.6	90.9
RXK	271	104.6	47.2	46.9	26.9	99.3	90.0
N12	**402**	**98.3**	**60.4**	**60.9**	**38.8**	**96.8**	**72.6**
RJC	9	180.0	22.2	55.6	11.1	100.0	77.8
RKB	258	103.6	55.4	59.7	34.5	100.0	66.7
RLT	121	126.0	81.0	62.8	54.5	100.0	81.8
RWP	14	23.7	0.0	71.4	0.0	7.1	100.0

Code	Number of cases	% of expected	Performance status (%)	Stage (%)	PS and stage (%)	MDT discussion field complete (%)	Treatment recorded (%)
N13	**640**	**75.2**	**97.5**	**88.1**	**86.1**	**99.8**	**99.4**
RK5	200	117.6	96.0	88.5	85.0	99.5	98.0
RX1	440	132.5	98.2	88.0	86.6	100.0	100.0
RWD	0	0.0	0.0	0.0	0.0	0.0	0.0
N14	**404**	**126.6**	**86.9**	**75.5**	**68.6**	**99.5**	**80.0**
RJF	136	219.4	86.8	87.5	78.7	99.3	89.0
RTG	268	104.3	86.9	69.4	63.4	99.6	75.4
N15	**772**	**102.5**	**74.5**	**73.2**	**59.2**	**94.4**	**86.0**
RNQ	174	119.2	57.5	56.9	46.0	85.1	72.4
RNS	143	100.7	63.6	69.9	46.9	93.7	95.8
RWE	455	97.8	84.4	80.4	68.1	98.2	88.1
N20	**513**	**96.4**	**40.4**	**31.0**	**26.7**	**99.6**	**86.4**
RC9	146	133.9	65.8	39.7	32.2	98.6	71.9
RWH	175	85.0	53.7	49.1	44.6	100.0	92.6
RWG	192	88.5	8.9	7.8	6.3	100.0	91.7
N21	**558**	**69.2**	**63.8**	**60.6**	**38.7**	**95.7**	**61.5**
RAS	105	100.0	2.9	74.3	1.9	97.1	98.1
RFW	83	150.9	100.0	95.2	95.2	100.0	95.2
RYJ	195	82.8	84.6	65.1	53.8	100.0	51.2
RQM	67	126.7	97.0	4.5	4.5	92.5	7.4
RT3*	5	3.4	100.0	60.0	60.0	100.0	100.0
RV8	59	38.3	11.9	35.6	10.2	100.0	28.8
RC3	43	78.2	62.8	60.5	39.5	62.8	76.7
RFU	1	-	100.0	100.0	100.0	100.0	100.0
N22	**425**	**58.1**	**94.4**	**92.5**	**89.2**	**91.3**	**91.1**
RAL	95	110.5	91.6	91.6	86.3	92.6	93.7
RAP	62	73.8	91.9	79.0	75.8	79.0	75.8
RKE	75	76.5	89.3	90.7	82.7	98.7	90.7
RQW	12	10.6	100.0	100.0	100.0	91.7	100.0
RRV	142	102.2	100.0	99.3	99.3	95.1	99.3
RVL	39	18.4	92.3	92.3	89.7	79.5	76.9
N23	**740**	**76.0**	**51.2**	**58.5**	**40.0**	**86.9**	**77.3**
RF4	276	93.9	22.1	50.4	10.9	97.1	90.6
RGC	121	92.4	84.3	89.3	77.7	100.0	90.1
RNH	118	122.9	78.8	65.3	59.3	93.2	69.5
RNJ	168	66.7	54.2	47.6	46.4	54.8	54.2
RQX	57	28.4	56.1	50.9	42.1	91.2	70.2

Code	Number of cases	% of expected	Performance status (%)	Stage (%)	PS and stage (%)	MDT discussion field complete (%)	Treatment recorded (%)
N24	**611**	**70.0**	**67.4**	**60.2**	**51.4**	**88.9**	**62.2**
RG2	165	117.9	76.4	70.9	58.2	93.3	80.0
RG3	155	123.0	98.1	89.7	89.7	97.4	86.5
RGZ	73	70.2	11.0	2.7	1.4	64.4	5.5
RJ1	55	20.1	3.6	30.9	3.6	50.9	90.9
RJ2	58	50.0	74.1	8.6	8.6	100.0	70.7
RJZ	105	92.1	77.1	83.8	67.6	100.0	18.1
N25	**377**	**48.0**	**1.6**	**35.8**	**0.3**	**34.0**	**56.8**
5LG	3	42.9	0.0	66.7	0.0	66.7	66.7
RPY	1	0.6	0.0	0.0	0.0	100.0	100.0
RJ6	58	54.2	0.0	56.9	0.0	3.4	69.0
RJ7	76	39.4	7.9	28.9	1.3	13.2	57.9
RVR	142	75.5	0.0	23.2	0.0	24.6	41.5
RAX	97	80.8	0.0	46.4	0.0	80.4	70.1
N26	**997**	**108.4**	**41.5**	**33.2**	**26.1**	**94.6**	**89.9**
RA9	173	110.9	96.0	89.0	86.1	98.8	93.6
RBZ	51	60.0	64.7	56.9	37.3	98.0	84.3
REF	319	143.0	34.2	14.7	6.0	99.4	94.7
RH8	171	85.5	57.3	53.8	41.5	76.0	87.7
RK9	283	110.5	2.8	3.2	0.7	97.2	84.5
N27	**493**	**122.6**	**84.2**	**68.8**	**61.3**	**99.4**	**90.7**
RBD	121	147.6	54.5	57.9	36.4	99.2	95.0
RD3	160	106.7	88.8	73.8	67.5	99.4	87.5
RDZ	212	124.7	97.6	71.2	70.8	99.5	90.6
N28	**518**	**61.4**	**47.5**	**42.9**	**27.4**	**93.4**	**81.1**
RA3	99	137.5	70.7	65.7	54.5	89.9	93.9
RA4	67	95.7	56.7	47.8	29.9	100.0	79.1
RA7	95	27.9	33.7	18.9	9.5	91.6	74.7
RBA	151	111.9	62.9	45.7	37.7	98.7	84.1
RD1	55	103.8	1.8	38.2	0.0	78.2	67.3
RVJ	51	29.5	19.6	33.3	3.9	96.1	76.5
N29	**315**	**65.9**	**86.0**	**69.2**	**62.2**	**99.4**	**82.5**
RLQ	112	151.4	97.3	84.8	82.1	100.0	82.1
RTE	203	83.2	79.8	60.6	51.2	99.0	82.8
RWP	0	0.0	0.0	0.0	0.0	0.0	0.0
N30	**882**	**85.5**	**63.5**	**62.8**	**47.1**	**93.1**	**75.2**
RD7	74	66.1	70.3	20.3	18.9	100.0	85.1
RD8	83	86.5	32.5	49.4	27.7	79.5	59.0
RHW	195	94.7	80.0	93.8	75.4	100.0	89.2
RN3	155	137.2	56.1	46.5	34.8	99.4	91.0
RP1	1	-	100.0	100.0	100.0	100.0	100.0
RTH	244	80.5	64.3	58.2	43.0	84.8	49.2
RXQ	130	64.7	61.5	76.9	54.6	95.4	88.5

Code	Number of cases	% of expected	Performance status (%)	Stage (%)	PS and stage (%)	MDT discussion field complete (%)	Treatment recorded (%)
N31	**415**	**38.0**	**58.1**	**56.9**	**46.7**	**97.6**	**76.4**
RHM	8	1.8	0.0	12.5	0.0	12.5	0.0
RN1	113	120.2	3.5	1.8	0.9	100.0	61.9
RN5	55	141.0	70.9	70.9	49.1	96.4	98.2
RNZ	86	121.1	97.7	79.1	79.1	100.0	86.0
RPR	121	112.0	69.4	84.3	62.0	99.2	83.5
RR2	32	60.4	93.8	75.0	71.9	100.0	56.3
RHU	0	0.0	0.0	0.0	0.0	0.0	0.0
N32	**242**	**44.8**	**36.4**	**44.2**	**24.0**	**82.6**	**90.9**
RA2	54	49.5	55.6	68.5	46.3	81.5	92.6
RTK	43	27.0	44.2	30.2	25.6	48.8	90.7
RDU	18	15.5	66.7	33.3	33.3	66.7	100.0
RTP	127	81.4	21.3	40.2	12.6	96.9	89.0
N33	**461**	**74.4**	**67.7**	**42.1**	**38.6**	**80.0**	**74.6**
RPL	108	77.1	72.2	50.9	44.4	88.0	81.5
RXC	221	96.5	98.6	57.0	56.6	98.6	79.2
RXH	132	52.6	12.1	9.8	3.8	42.4	61.4
N34	**509**	**56.4**	**20.8**	**28.5**	**14.7**	**71.1**	**97.8**
RN7	87	71.9	78.2	70.1	62.1	98.9	88.5
RPA	20	9.8	60.0	50.0	40.0	95.0	100.0
RWF	171	84.2	4.7	7.6	4.7	19.3	99.4
RVV	231	61.8	7.8	26.4	2.2	97.0	100.0
N35	**234**	**21.9**	**70.9**	**77.4**	**54.7**	**99.6**	**67.9**
RJD	148	121.3	75.0	75.0	56.1	100.0	53.4
RJE	23	6.7	0.0	100.0	0.0	100.0	82.6
RL4	62	32.8	88.7	75.8	72.6	100.0	98.4
RXW	1	0.5	0.0	0.0	0.0	0.0	0.0
RNA	0	0.0	0.0	0.0	0.0	0.0	0.0
N36	**2291**	**107.4**	**71.9**	**55.1**	**46.7**	**95.4**	**76.9**
RE9	148	110.4	50.7	25.7	14.9	99.3	87.8
RLN	269	119.0	99.3	84.8	84.0	99.6	92.9
RNL	215	126.5	56.7	40.9	26.0	93.0	41.4
RR7	106	80.3	80.2	50.0	40.6	85.8	98.1
RTD	219	131.9	84.9	72.6	65.3	89.5	95.4
RTF	320	87.9	42.2	40.9	28.4	85.9	68.8
RTR	302	111.9	61.9	11.6	8.3	98.0	60.3
RVW	320	106.7	71.9	81.9	62.8	100.0	100.0
RXP	392	105.4	91.8	68.6	67.1	100.0	65.6

Code	Number of cases	% of expected	Performance status (%)	Stage (%)	PS and stage (%)	MDT discussion field complete (%)	Treatment recorded (%)
N37	**704**	**51.5**	**51.8**	**43.9**	**38.1**	**82.4**	**70.7**
RC1	81	142.1	88.9	85.2	75.3	100.0	96.3
RCX	67	59.8	68.7	53.7	50.7	95.5	95.5
RGM*	5	1.9	60.0	100.0	60.0	80.0	60.0
RGN	30	27.8	46.7	40.0	26.7	100.0	60.0
RGP	64	48.9	84.4	78.1	68.8	92.2	71.9
RGQ	10	5.8	0.0	0.0	0.0	10.0	20.0
RGR	123	236.5	64.2	43.1	34.1	100.0	74.8
RGT*	68	66.0	86.8	79.4	70.6	97.1	8.8
RM1	206	60.9	0.5	0.0	0.0	54.4	81.1
RQQ	50	142.9	74.0	60.0	56.0	80.0	44.0
N38	**653**	**96.3**	**69.7**	**71.8**	**55.0**	**87.6**	**91.0**
RAJ	205	106.8	72.7	62.4	48.8	94.6	99.0
RDD	149	84.7	73.8	57.0	48.3	87.9	94.0
RDE	201	114.2	97.5	95.0	93.0	98.0	97.5
RQ8	98	73.1	0.0	66.3	0.0	51.0	56.1
SEW	**943**	**123.4**	**80.0**	**85.4**	**71.4**	**93.6**	**73.7**
RWM	303	109.8	85.1	92.1	78.5	99.3	83.5
RRS	119	108.2	82.4	80.7	70.6	100.0	59.7
RVE	139	136.3	76.3	66.9	55.4	97.1	75.5
RVF	382	138.4	76.4	88.2	71.7	85.9	69.6
SWW	**614**	**91.8**	**79.6**	**88.3**	**72.0**	**97.7**	**63.4**
RVA	132	99.2	84.1	87.1	74.2	100.0	65.2
RKU	21	61.8	66.7	47.6	38.1	100.0	81.0
RR6	99	113.8	66.7	88.9	57.6	100.0	47.5
RVC	193	79.4	98.4	91.2	90.2	100.0	73.6
RVD	169	98.3	63.9	90.5	62.1	91.7	57.4
NWW	**425**	**98.2**	**40.2**	**52.2**	**31.5**	**87.3**	**68.5**
RT7	126	113.5	38.9	52.4	27.8	96.0	61.9
RT8	139	77.2	16.5	7.9	3.6	69.8	73.4
RT9	160	112.7	61.9	90.6	58.8	95.6	69.4
Total	**22628**	**75.2**	**63.0**	**58.7**	**46.7**	**91.0**	**78.6**

Notes: Colour-coding for expected number of cases: >50 per cent expected, 25-50 per cent expected, <25 per cent expected red. Other fields colour -coded to indicate whether LAP targets were achieved (>75 per cent completeness for individual fields, > 66 per cent completeness for combined fields).

- Results are based on the trust at which the patient is first seen. Some tertiary treatment trusts (marked * and colour coded in blue) see few (or no) patients at presentation and so appear to have poor data completeness which may be misleading. It is important to realise that for these trusts the usual targets do not apply – instead we rely upon these trusts to upload important treatment data on the patients they see.

- Trust code RRJ has been entered in error. This case was first seen at RKB and diagnosed at RRJ. The uploading trust has corrected these data in the LUCADA database.

- RQX self-report that their case ascertainment is approximately 67 per cent. The NLCA is investigating this.

- RWP has hospital sites in both N29 and N12, only those in N12 participated

- Several Trusts uploaded data after the June deadline; hence their case ascertainment is now higher than reported here.

5.7 Data Completeness For Scottish Networks

In Scotland data is collected in line with datasets and definitions agreed between the Scottish networks, NHS Quality Improvement Scotland, and (for cancer waiting times) the Scottish Government. Coordination and quality assurance of national prospective cancer audit is undertaken through the Information Services Division (ISD) who also provide guidance on the application of field definitions to ensure a high level of consistency across the country.

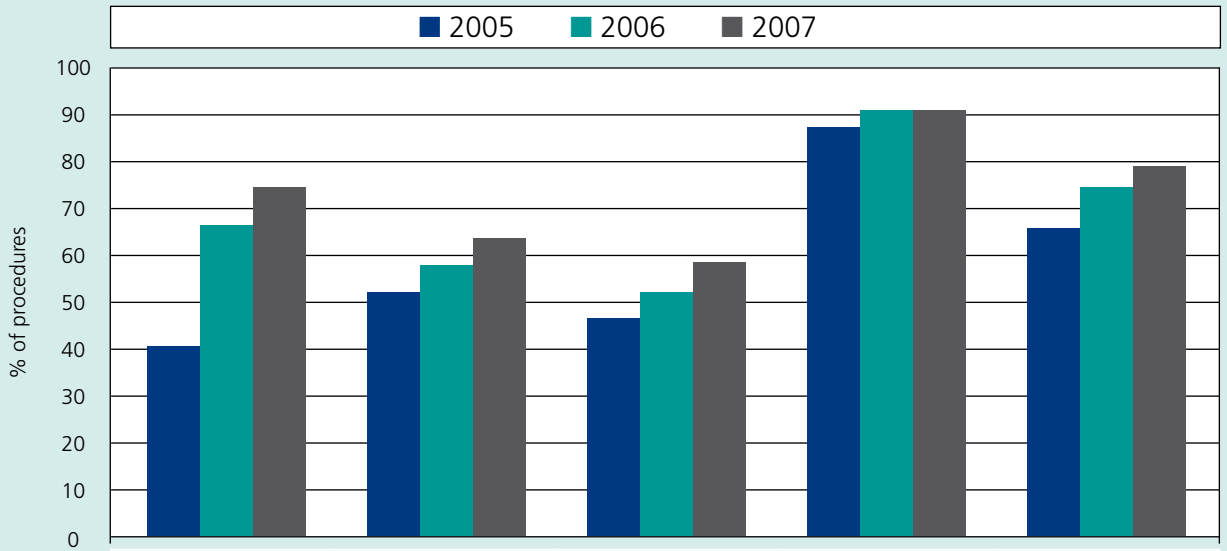
For Scotland the corresponding measures of data completeness shown in table 5.2

Table 5.2 Data completeness Scotland

Organisation	Number of cases	% of expected	MDT discussion (%)	Treatment recorded (%)
SCAN	**1089**	**96.4**	**99.3**	**99.6**
Borders	80	93	100	98.7
D & G	95	77.2	98.9	100
Fife	314	120.8	97.8	100
Lothian	600	90.8	100	99.5
WoSCAN*	**1594**	**82.2**	**94.4**	**99.5**
Ayrshire & Arran	277	89.4	100	100
Clyde	284	84	86.6	99.3
Forth Valley	176	76.5	96.1	100
Greater Glasgow	857	80.8	95	99.3
* excludes data from hospitals in Lanarkshire Health Board area.				
NoSCAN	**841**	**90.2**	**99.7**	**98.6**
Grampian	343	88.7	100	99.7
Highland	171	108	100	100
Tayside	309	85.1	100	97.4
Western Isles	15	93.8	100	100
Orkney	0	0	-	-
Shetland	3	100	0	0
Scotland Total	**3524**	**88.1**	**97.2**	**99.3**

5.8 Is The Quality Of Data Improving?

Figure 5.1 Breakdown of the population analysed



	% of expected	PS field completeness	Stage field completeness	MDT	Treatment recorded
2005	40%	53%	47%	86%	66%
2006	66%	58%	53%	91%	75%
2007	75%	63%	59%	91%	79%

Support for the audit has steadily grown in terms of participating countries, participating trusts/networks, numbers (and thus the proportion) of cases submitted and also in the quality of data on individual patients. Figure 5.1 gives some details from England and Wales to illustrate this.

5.9 Building Peer Pressure

Since papers on the NLCA began to be presented at meetings such as the British Thoracic Society and the British Thoracic Oncology Group, there has been a huge increase in the number of abstracts, papers and posters which have used data derived from the NLCA as part or all of the source material. It is estimated that the number of such abstracts coming from sources completely outside the NLCA team to be around 20 per annum for the last 2-3 years. This is powerful evidence of the building of Peer Pressure – one of the most effective drivers for change.

6.0 Prevalence Of Lung Cancer

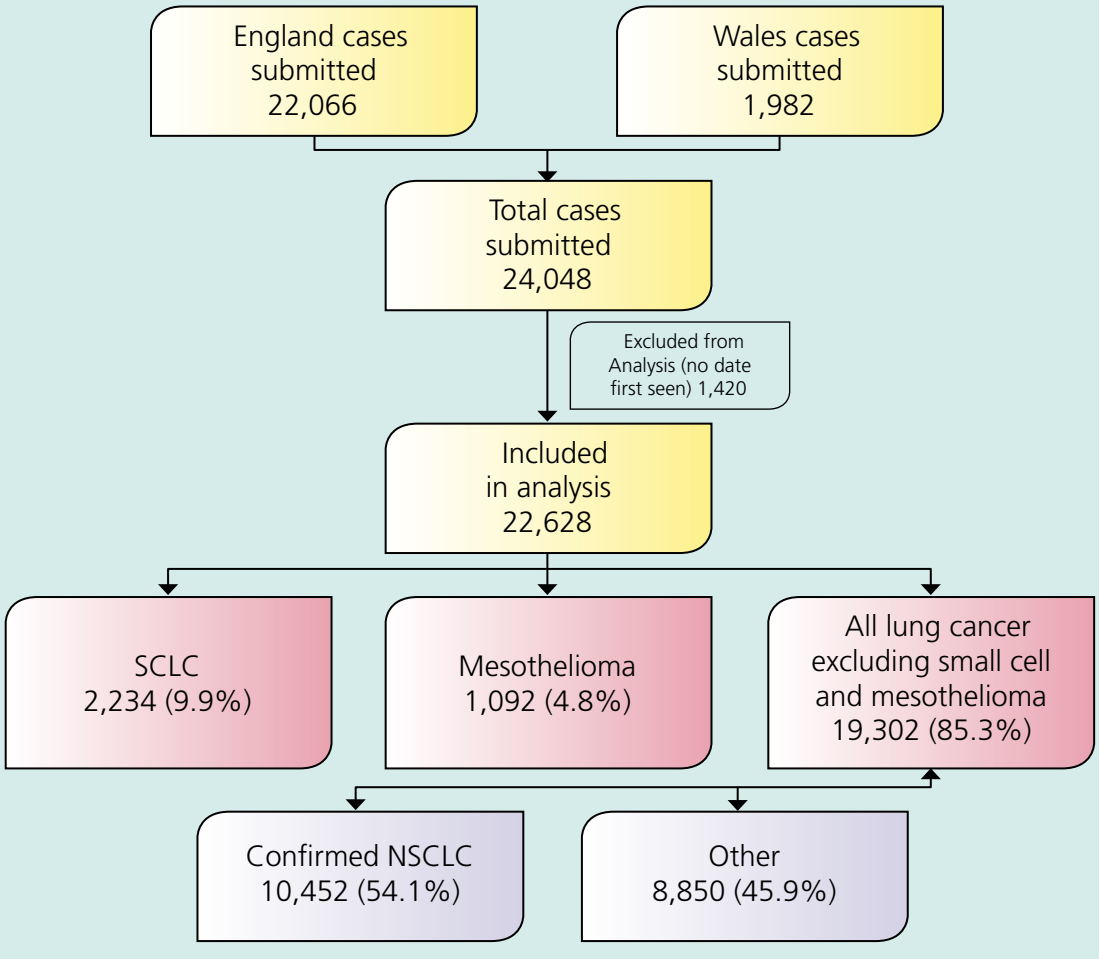
6.1 Summary

This chapter looks more closely at the number of lung cancer patients and across different groups such as histological type, age, sex, stage, performance status and co-morbidity. Of the 22,628 cases analysed from England and Wales, 9.9 per cent were small cell lung cancer, 4.8 per cent were mesothelioma and the remaining 85.3 per cent were either histologically confirmed non-small cell lung cancer (54.1 per cent) or cases where the diagnosis was made on clinical grounds only (45.9 per cent). 59 per cent of patients were male and 41 per cent were female, with an age-range similar to previous years. The majority of cases are diagnosed between ages 60-85. Patients most often present with Stage IV (metastatic disease) but more patients have good performance status (0-1) than poor performance status (2-4). There are a variety of significant co-morbidities in these patients.

6.2 Prevalence Of Cases: England and Wales

In 2007 there were 24,048 patient records submitted from England and Wales (Figure 6.1). This is approximately 75 per cent of the expected annual incidence. 1,420 of these were not suitable for further analysis (all of which came from English submissions) as there was either no "data first seen" recorded, meaning that it was not possible to be certain that these were cases from 2007 or no "place first seen" rendering it impossible to allocate the record to an organisation.

Figure 6.1 Breakdown of the population analysed



6.3 Prevalence By Histological Subtype

As can be seen in figure 6.1, of the records that were suitable for analysis, there were 2,234 cases of SCLC (9.9 per cent of total), 1,092 cases of mesothelioma (4.8 per cent of total) and 19,302 cases that were neither SCLC nor mesothelioma. Of these cases, 10,452 were histologically-confirmed cases of NSCLC, whereas 8,850 were cases with no histological confirmation (the vast majority) or with histology other than NSCLC (for example carcinoid or carcinosarcoma).

6.5 Prevalence By Tumour Stage

Table 6.2 shows the stage distribution of the main lung cancer groupings. Analysis was based on pre-treatment stage, but if unavailable, pathological stage was used instead. SCLC is generally staged as limited or extensive, but if this data was missing, the TNM staging was used where available. In such cases of SCLC, stages IA to IIIB were taken as limited unless bilateral, and stage IV was taken as extensive.

Table 6.1 Prevalence of cancer type by age and sex

		0-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
All cases	Male	833	997	1732	2105	2368	2428	1780	1089
	Female	707	769	1166	1313	1540	1586	1307	889
SCLC	Male	102	120	194	238	229	202	109	50
	Female	95	116	130	170	208	145	92	34
Mesothelioma	Male	25	63	138	152	157	182	111	69
	Female	9	16	27	32	30	42	24	14
NSCLC	Male	435	524	850	1055	1199	1179	746	336
	Female	362	422	626	636	727	653	478	222
All except SCLC/ meso	Male	706	814	1400	1715	1982	2044	1560	970
	Female	603	637	1009	1111	1302	1399	1191	841

6.4 Prevalence By Age And Sex

Table 6.1 shows the age and sex distribution of the lung cancer groupings. As age was not given for all cases, the numbers of cases given in the table are lower than the total cases given above. Of cases included in the analysis, 13,344 (59 per cent) were male and 9,283 (41 per cent) were female – a M:F ratio of 1.4:1 (one case did not have sex recorded).

Table 6.2 Prevalence by tumour stage

All except mesothelioma and SCLC		
Stage	Number	%
IA	715	3.70
IB	1010	5.23
IIA	116	0.60
IIB	695	3.60
IIIA	1292	6.69
IIIB	2385	12.36
IV	5361	27.78
N/A	3	0.02
Uncertain	2131	11.04
Missing	5594	28.98
Total	**19302**	**100**

Histologically confirmed NSCLC		
Stage	Number	%
IA	422	4.04
IB	661	6.32
IIA	67	0.64
IIB	492	4.71
IIIA	901	8.62
IIIB	1661	15.89
IV	3326	31.82
N/A	2	0.02
Uncertain	1346	12.88
Missing	1574	15.06
Total	**10452**	**100**

Other NSCLC		
Stage	Number	%
IA	293	3.31
IB	349	3.94
IIA	49	0.55
IIB	203	2.29
IIIA	391	4.42
IIIB	724	8.18
IV	2035	22.99
N/A	1	0.01
Uncertain	785	8.87
Unknown	4020	45.42
Total	**8850**	**100**

All SCLC		
Stage	Number	%
Limited	563	25.20
Extensive	1064	47.63
Unknown	165	7.39
Missing	442	19.79
Total	**2234**	**100**

6.6 Prevalence By Performance Status

Performance status (PS) in the UK is usually defined according to the five point internationally agreed World Health Organization (WHO) scale. PS status at the time of decisions about treatment is a powerful prognostic factor in lung cancer and is of particular importance in determining suitability of patients for chemotherapy or radical radiotherapy.

Table 6.3 indicates the distribution of performance status for all cancers. The results indicate a wide spread of performance status, but despite the finding that most patients' tumours are discovered at an advanced stage, only a small proportion have a PS in the worst two categories.

Table 6.3 Distribution of Performance status – all lung cancers

Code	Status	Number (%)
0	Able to carry out normal activity without restriction	2984 (13.19)
1	Restricted in physical strenuous activity but able to walk and do light work	4806 (21.24)
2	Able to walk and capable of all self care but unable to carry out any work. Up and about more than 50% of waking hours	3090 (13.66)
3	Capable of only limited self care, confined to bed or chair more than 50% of waking hours	2528 (11.17)
4	Completely disabled. Cannot carry on any self care. Totally confined to bed or chair.	841 (3.72)
5	Not recorded	3792 (16.76)
Missing		**4587 (20.27)**
Total		**22628 (100)**

6.7 Prevalence By Co-Morbidity

Patients with lung cancer, who are predominantly elderly and have a history of smoking, often have associated illnesses. Table 6.4 lists the prevalence of those co-morbidities that the NLCA collects data on, with the percentage figure representing the proportion of all patients where the co-morbidity was recorded.

Table 6.4 – Prevalence of co-morbidity

Co-morbidity	Number (%)
Dementia/cerebrovascular disease	301 (1.33)
Cardiovascular disease	898 (3.97)
Renal failure	107 (0.47)
Other malignancy	602 (2.66)
Severe weight loss	403 (1.78)
Other significant co-morbidity	1458 (6.44)
Co-morbidity, but not specified	62 (0.27)
COPD	768 (3.39)
At least one co-morbidity	3447 (15.23)

Co-morbidity in the LUCADA dataset has a very specific definition, based on whether it is of sufficient severity to affect treatment decisions. However, an audit of use of the co-morbidity field in 2008 in England revealed that users frequently do not adhere to this strict definition and so it is difficult to use the data to draw specific conclusions.

6.8 Prevalence by treatment type England and Wales

Lung cancer can be treated with several types of treatment either singly or in combination. Table 6.5 shows how the proportion of cases that received the main types of treatment available, as first treatment and as part of any treatment received.

Table 6.5 Proportion of cases receiving treatment by treatment type.

Treatment Type	First Treatment	Any Treatment
	Per cent	Per cent
Surgery	9.26	9.88
Chemotherapy	23.17	25.24
Radiotherapy (Including Brachytherapy)	17.1	22.04
Palliative Care	16.51	17.61
Active Monitoring	12.71	12.86

6.9 Prevalence For Scotland

Data on mesothelioma is not currently collected as part of national prospective cancer audit in Scotland. For all Scottish cases, the sex distribution was 53% male and 47% female (M:F ratio of 1.13:1).

Table 6.6 Distribution by age and by histological subtype (Scotland)

	0-54	55-59	60-64	65-69	70-74	75-79	80-84	85+	Missing	
All cases	232	286	448	599	600	679	417	257	6	

	Number	%
NSCLC	2147	60.9
SCLC	529	15.0
Other	52	1.5
No / Negative histology	699	19.8
Missing data	97	2.8

(N.B. Histology obtained by surgical resection is not included in table 6.6).

7.0 Lung Cancer Services And Pathway

7.1 Summary

Chapter 7 examines the pathway for lung cancer patients. Of the data recorded, almost half (47 per cent) are referred to a lung cancer specialist from a primary care physician but a significant proportion are referred either after an emergency presentation or from another speciality within a hospital. This chapter contains details by network and trust of the times taken between referral to date first seen (first specialist appointment) and between date first seen (first specialist appointment) and initial treatment. Overall the median wait between referral and date first seen is 6 days (interquartile range 0-11 days). The median wait between date first seen and initial treatment is 29 days (interquartile range 15-49 days), being longer for GP referrals (median 35 days) than non-GP referrals (median 23 days). It should be noted that the NLCA pathway times differ from the Department of Health's 'Cancer Waiting Times' targets.

7.2 Background To The National Context

Several national reports and initiatives have shaped the lung cancer services offered to NHS patients in 2007. These include the Calman-Hine report [(1)]; Management and survival of patients with lung cancer in Scotland diagnosed in 1995 [(2)]; Commissioning Cancer Care in Scotland [(3)]; Improving Outcomes for patients with Lung Cancer [(4)]; NHS National Cancer Plan [(5)]; NHS Scotland: Cancer in Scotland: Action for Change [(6)]; Clinical Standards Board for Scotland National Overview: Lung Cancer Services [(7)]; Cameron Report [(8)]; The National Institute for Clinical Excellence (NICE) 'Referral Guidelines for Suspected Cancer' [(9)]; The National Institute for Clinical Excellence (NICE) guidance on 'The diagnosis and treatment of lung cancer' [(10)]; The Scottish Intercollegiate Guidelines Network Guideline 80: Management of Lung Cancer [(11)]; Cancer Peer Review [(12)]; The National Mesothelioma Framework [(13)]; and Cancer Services Information Framework Clinical Study Groups [(14)]. The Cancer Reform Strategy [(15)] (November 2007) was published too late in the year to influence care in 2007.

7.3 What Happens To Patients With Suspected Lung Cancer?

The symptoms of lung cancer and mesothelioma are relatively non-specific, as a result of which referral routes are many and varied. Of those diagnosed with lung cancer or mesothelioma, no more than half are referred directly from primary care to the lung cancer specialist team with suspicion of the disease and there are frequent delays in diagnosis. Patients may not recognise a symptom, for example a persistent cough, as being indicative of serious illness and may delay seeking advice from their General Practitioner. GPs likewise may not immediately consider a diagnosis of lung cancer and may delay referral for investigation.

Rapid referral guidelines are available [(9)] and specialist rapid access clinics have been set up in virtually all trusts in England and Wales to diagnose and treat patients. Management of patients with lung cancer and mesothelioma is now almost entirely carried out by specialist multi-disciplinary teams (MDTs) with lung cancer and mesothelioma being managed by the same specialist clinical groups.

Establishing a tissue diagnosis for both lung cancer and mesothelioma can be difficult and often requires invasive investigation. Thus there will always be a proportion of patients in whom the diagnosis is established on clinical and/or radiological grounds only. Furthermore, there are a small proportion of patients who are either not recognised or who are too ill and are therefore never referred to secondary care. Because of the specialist nature of surgery, radiotherapy and chemotherapy, a high proportion of patients are managed by more than one trust. This poses problems with completeness of data unless all clinical teams involved in the care pathway are collecting the appropriate data.

7.4 What Are The Common Routes Of Referral?

The data on route of referral are similar to that found in previous years, with 47 per cent being referred from a primary care physician. In the remaining 53 per cent other referral routes include emergency admissions, A&E referrals and consultant-to-consultant referrals.

7.5 How Quickly Is Care Provided?

The National Lung Cancer Audit collects data on the date of referral, date first seen by a specialist, date of diagnosis and the date of first treatment and is therefore able to measure timeliness of care in several ways.

The NHS Cancer Plan states that the government believes the ultimate goal should be to "offer patients

a maximum one month wait from an urgent referral for suspected cancer to the beginning of treatment. Where patients wait longer, this should be because of the needs of the diagnostic process or their personal choice, not because of in-built delays in the system of care." Targets are in place in England and Wales to ensure that no patient waits for more than 14 days from urgent GP referral for suspected cancer to their first appointment with a specialist, and that no patient waits more than 62 days from urgent GP referral to their first treatment.

At the University Hospitals of Birmingham NHS Trust, the lung MDT uses data from the NLCA routinely to benchmark their own performance against national performance. They use it to monitor changes resulting from changes in service design – for example monitoring the impact of introducing pre-clinic CT scans from June 2007 – an initiative which reduced time to first definitive treatment by 30%. Data from the NLCA is routinely included in their service improvement reports.

Table 7.1 Results by trust and network for the time from referral to first appointment and the time from first appointment to first treatment.

	Referral to Date First Seen														
	All					GP Referral					Non-GP Referral				
code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N01	**519**	**179**	**7**	**3**	**12**	**286**	**23**	**8**	**6**	**12**	**233**	**156**	**0**	**0**	**4**
RTX	141	20	7	0	11	89	7	8	6	12	52	13	0	0	0
RXL	173	89	7	2.5	11	73	10	8	5	11	100	79	0	0	12
RXN	86	45	9	7	12	41	6	10	7	12	45	39	0	0	21
RXR	119	25	8	6	13	83	0	9	6	13	36	25	0	0	6
N02	**1,145**	**84**	**5**	**0**	**8**	**456**	**14**	**7**	**4**	**9**	**689**	**70**	**1**	**0**	**7**
RBV	1	0	0	0	0	0					1	0	0	0	0
RJN	79	1	5.5	1	8	33	0	7	5	12	46	1	2	0	7
RM2	52	16	0	0	5.5	26	6	0	0	0.5	26	10	2	0	11
RM3	196	35	6	1	11	84	1	7	6	11	112	34	1	0	8
RM4	6	1	0	0	0	2	1	0	0	0	4	0	0	0	0
RMC	179	0	2	0	7	69	0	5	2	7	110	0	0	0	6
RMP	122	0	5	0	7	79	0	7	5	8	43	0	0	0	0
RRF	115	0	5	1	11	26	0	6	4	16	89	0	3	0	10
RW3	110	1	2	0	8	20	0	6	4.5	12.5	90	1	1	0	6
RW6	279	29	5.5	0	8	116	6	7	5	9	163	23	0	0	7
RWJ	6	1	14	1	16	1	0	20	20	20	5	1	7.5	0.5	15
N03	**823**	**20**	**5**	**0**	**9**	**440**	**5**	**7**	**4**	**10**	**383**	**15**	**0**	**0**	**5.5**
RBL	135	6	7	0	8	94	0	7	3	10	41	6	0	0	8
RBN	161	0	5	0	10	74	0	8	5	10	87	0	0	0	8
RBQ	115	2	7	3	8	92	0	7	4	8	23	2	4	2	8
REM	43	0	3	0	10	20	0	9	7.5	14	23	0	0	0	3
RJR	128	5	5	0	7	56	4	6	5	8	72	1	0	0	5
RQ6	50	0	2	0	9	0					50	0	2	0	9
RVY	20	3	5	0	8	10	0	8	5	8	10	3	0	0	2
RWW	171	4	6	0	11	94	1	9	7	12	77	3	0	0	0
N06	**1,604**	**177**	**6**	**0**	**11**	**735**	**0**	**7**	**5**	**12**	**869**	**177**	**0**	**0**	**7**
NT2	1	1	.	.	.	0					1	1	.	.	.
RAE	229	7	0	0	9	37	0	9	6	14	192	7	0	0	8
RCB	176	0	3	0	9	42	0	0	0	14	134	0	5	0	9
RCD	81	0	3	0	6	59	0	4	0	7	22	0	0	0	1
RCF	95	0	4	0	7	56	0	6	4	7	39	0	0	0	0
RR8	519	167	10	6	13	276	0	10	6	13	243	167	12	6	23
RWY	109	1	1	0	6	61	0	5	3	7	48	1	0	0	0
RXF	394	1	3	0	10	204	0	9	5	13	190	1	0	0	0
N07	**385**	**0**	**6**	**2**	**9**	**255**	**0**	**6**	**3**	**10**	**130**	**0**	**2**	**0**	**8**
RJL	68	0	5	0	10.5	41	0	9	6	12	27	0	0	0	0
RWQ	317	0	6	2	9	214	0	6	3	9	103	0	4	1	10
N08	**1,094**	**49**	**6**	**0**	**11**	**550**	**1**	**7**	**5**	**12**	**544**	**48**	**0**	**0**	**6**
RFF	48	45	0	0	15	0					48	45	0	0	15
RFS	172	0	5	0	12	125	0	8	0	13	47	0	0	0	1
RHQ	386	4	5	0	9	176	1	7	5	9	210	3	0	0	8
RP5	360	0	6	0	10	186	0	9	6	12	174	0	0	0	0
RFR	128	0	7	2	13	63	0	11	7	14	65	0	3	1	10

	Date First seen to Treatment														
	All					GP Referral					Non-GP Referral				
Code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N01	**519**	**112**	**33**	**20**	**50**	**286**	**44**	**36**	**23**	**49**	**233**	**68**	**30**	**14**	**51**
RTX	141	13	31	21	49	89	7	38.5	25	51	52	6	21.5	10	40
RXL	173	67	34	21	50	73	19	41.5	27	58	100	48	24.5	14	43
RXN	86	21	36	28	56	41	12	33	26	41	45	9	38.5	29.5	66.5
RXR	119	11	30.5	12	45.5	83	6	31	14	44	36	5	30	11	58
N02	**1,145**	**525**	**34**	**19.5**	**56**	**456**	**265**	**33**	**20**	**53**	**689**	**260**	**34**	**19**	**57**
RBV	1	0	2	2	2	0					1	0	2	2	2
RJN	79	9	29	19	56	33	3	31.5	21	50	46	6	29	15.5	61.5
RM2	52	32	43.5	26.5	80.5	26	17	30	26	37	26	15	64	37	133
RM3	196	153	28	20	54	84	74	36	20	65	112	79	28	21	40
RM4	6	5	30	30	30	2	2	.	.	.	4	3	30	30	30
RMC	179	41	31	19	53	69	22	28	17	41	110	19	34	19	55
RMP	122	27	46	23	66	79	21	46	27	60	43	6	46	16	70
RRF	115	75	39.5	25.5	60	26	25	69	69	69	89	50	39	25	57
RW3	110	36	24	8	51	20	6	40.5	17	55	90	30	22.5	5.5	49.5
RW6	279	142	35	20	55	116	94	14.5	11	28	163	48	40	23	57
RWJ	6	5	13	13	13	1	1	.	.	.	5	4	13	13	13
N03	**823**	**341**	**34**	**19**	**55**	**440**	**168**	**36**	**23.5**	**53**	**383**	**173**	**32.5**	**15**	**61**
RBL	135	73	37	27	55	94	49	38	31	55	41	24	34	20	55
RBN	161	41	30	10	52	74	18	30.5	15	49	87	23	26.5	8.5	59
RBQ	115	25	34	20	53	92	21	34	21	48	23	4	51	19	79
REM	43	15	25.5	15.5	37	20	6	26	18	36	23	9	25	10	47
RJR	128	83	36	26	58	56	30	35	26	63	72	53	36	29	58
RQ6	50	8	31.5	22	66	0					50	8	31.5	22	66
RVY	20	3	20	9	39	10	1	38	20	45	10	2	11.5	6	28.5
RWW	171	93	37	23	65	94	43	44	29	67	77	50	30	15	51
N06	**1,604**	**407**	**28**	**14**	**46**	**735**	**206**	**31**	**17**	**49**	**869**	**201**	**24**	**13**	**44**
NT2	1	0	10	10	10	0					1	0	10	10	10
RAE	229	21	31	14	50	37	2	38	22	60	192	19	27	14	48
RCB	176	36	28	14.5	48	42	8	34	21	58	134	28	28	13	45
RCD	81	17	18.5	7.5	30.5	59	9	17	7	30	22	8	23	12	32
RCF	95	4	21	11	35	56	3	28	16	39	39	1	14	4	31
RR8	519	189	32	17	62	276	98	37	22	63	243	91	27	13	54.5
RWY	109	20	22	12	38	61	15	25.5	14	42	48	5	18	8	33
RXF	394	120	25.5	15	43	204	71	29	18	43	190	49	21	14	44
N07	**385**	**71**	**30**	**15**	**45**	**255**	**58**	**33**	**20**	**46**	**130**	**13**	**22**	**11**	**41**
RJL	68	5	32	22	52	41	5	33	26	48	27	0	29	18	64
RWQ	317	66	29	14	44	214	53	33	18	46	103	13	19	9	40
N08	**1,094**	**274**	**32**	**15**	**51**	**550**	**119**	**36**	**21**	**52**	**544**	**155**	**28**	**13**	**50**
RFF	48	40	24	7	90	0					48	40	24	7	90
RFS	172	22	35	13	50	125	17	35	14	49	47	5	34	8	66
RHQ	386	93	35	18	52	176	40	39	27	54.5	210	53	31	14	51
RP5	360	98	29	15	50	186	49	35	21	54	174	49	25	13	48
RFR	128	21	31	15	44	63	13	33	20	50	65	8	25	9	42

	Referral to Date First Seen														
	All					GP Referral					Non-GP Referral				
code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N11	**920**	**335**	**6**	**0**	**10**	**300**	**113**	**8**	**6**	**13**	**620**	**222**	**2**	**0**	**8**
RBK	154	4	2	0	8	17	1	8	7	12	137	3	1	0	7
RR1	264	80	7.5	3	12	134	7	8	6	13	130	73	0	0	8
RRJ	1	0	94	94	94	1	0	94	94	94	0				
RRK	230	0	6	0	9	37	0	7	6	12	193	0	5	0	8
RXK	271	251	6	2	23.5	111	105	6	2	7	160	146	5.5	2	33
N12	**402**	**11**	**5**	**0**	**12**	**105**	**2**	**8**	**5**	**13**	**297**	**9**	**0**	**0**	**12**
RJC	9	0	10	6	12	7	0	10	6	13	2	0	3	0	6
RKB	258	1	6	0	12	34	0	9.5	6	12	224	1	0	0	12
RLT	121	4	2	0	8	56	2	6	2	11	65	2	0	0	0
RWP	14	6	13	12.5	15.5	8	0	13	12.5	15.5	6	6	.	.	.
N13	**640**	**0**	**3**	**0**	**9**	**303**	**0**	**8**	**5**	**12**	**337**	**0**	**0**	**0**	**0**
RK5	200	0	4	0	7	95	0	5	4	10	105	0	0	0	5
RX1	440	0	0	0	9	208	0	9	7	12.5	232	0	0	0	0
N14	**404**	**1**	**7**	**0**	**13**	**179**	**0**	**11**	**8**	**13**	**225**	**1**	**0**	**0**	**5**
RJF	136	0	3	0	10	62	0	10	7	13	74	0	0	0	0
RTG	268	1	8	0	13	117	0	12	10	14	151	1	0	0	7
N15	**772**	**8**	**7**	**0**	**14**	**348**	**1**	**13**	**8**	**15**	**424**	**7**	**0**	**0**	**6**
RNQ	174	7	4	0	9	83	1	9	6	11	91	6	0	0	3
RNS	143	1	6.5	0	12	82	0	9	7	13	61	1	0	0	1
RWE	455	0	8	0	15	183	0	14	13	18	272	0	0	0	7
N20	**513**	**21**	**6**	**0**	**11**	**254**	**4**	**9**	**6**	**13**	**259**	**17**	**1**	**0**	**5**
RC9	146	2	5	0	13	67	1	11	6	15	79	1	1	0	4
RWH	175	1	5	0	9	80	0	7.5	5.5	12	95	1	0	0	3
RWG	192	18	7	1	12	107	3	9	6.5	13	85	15	1.5	0	6
N21	**558**	**182**	**6**	**0**	**10**	**203**	**9**	**9**	**6**	**11**	**355**	**173**	**0**	**0**	**6**
RAS	105	71	7	6	10	34	4	7	6	9	71	67	15.5	4.5	167.5
RFW	83	0	6	1	11	27	0	10	8	12	56	0	3	1	8
RYJ	195	38	2	0	8	64	0	7	3	9.5	131	38	0	0	3
RQM	67	66	12	12	12	2	1	12	12	12	65	65	.	.	.
RT3	5	3	8	6	10	3	1	8	6	10	2	2	.	.	.
RV8	59	0	10	7	12	57	0	10	8	12	2	0	2.5	0	5
RC3	43	4	0	0	9	15	3	10.5	3.5	14	28	1	0	0	1
RFU	1	0	11	11	11	1	0	11	11	11	0				
N22	**425**	**177**	**4**	**0**	**10**	**89**	**5**	**9**	**7**	**13**	**336**	**172**	**0**	**0**	**6**
RAL	95	2	0	0	8	24	1	9	8	13	71	1	0	0	0
RAP	62	12	3.5	0	7	29	3	7	6	9	33	9	0	0	0
RKE	75	0	7	1	14	24	0	11	7	14	51	0	5	0	14
RQW	12	12	.	.	.	0					12	12	.	.	.
RRV	142	132	51.5	21	66	5	0	56	47	66	137	132	21	9	63
RVL	39	19	1	0	10	7	1	10	9	11	32	18	0	0	1
N23	**740**	**31**	**5**	**0**	**9**	**326**	**3**	**8**	**6**	**11**	**414**	**28**	**0**	**0**	**5**
RF4	276	1	5	0	7	110	0	6	5	10	166	1	1	0	6
RGC	121	0	6	0	12	59	0	11	6	13	62	0	0	0	3
RNH	118	9	0	0	9	21	1	9	6	10.5	97	8	0	0	3
RNJ	168	21	7	0	9	111	2	8	7	11	57	19	0	0	0
RQX	57	0	6	0	10	25	0	8	6	11	32	0	0	0	8

	Date First seen to Treatment														
	All					GP Referral					Non-GP Referral				
Code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N11	**920**	**212**	**32**	**18**	**54**	**300**	**78**	**39**	**23**	**59**	**620**	**134**	**28**	**16**	**50**
RBK	154	39	40	24	61	17	3	49.5	27	58	137	36	38	24	61
RR1	264	82	28.5	18	49	134	44	32.5	22	52	130	38	25	15	44
RRJ	1	1	.	.	.	1	1	.	.	.	0				
RRK	230	44	30	17	50	37	9	47	31	53	193	35	28	15	46
RXK	271	46	31	13	61	111	21	42.5	21	66	160	25	25	7	53
N12	**402**	**145**	**33**	**18**	**46**	**105**	**41**	**42**	**27.5**	**54.5**	**297**	**104**	**30**	**17**	**45**
RJC	9	2	42	22	78	7	2	42	25	52	2	0	46.5	15	78
RKB	258	101	34	18	45	34	17	43	37	49	224	84	31	17	45
RLT	121	28	30	21	49	56	14	36.5	21	55	65	14	29	15	45
RWP	14	14	.	.	.	8	8	.	.	.	6	6	.	.	.
N13	**640**	**103**	**28**	**15**	**45**	**303**	**66**	**34**	**19**	**49**	**337**	**37**	**24**	**12.5**	**40**
RK5	200	22	23	14	41	95	11	30	20	50.5	105	11	16	10	28
RX1	440	81	30	16	47	208	55	35	17	48	232	26	27.5	14	44
N14	**404**	**132**	**31**	**19**	**51**	**179**	**67**	**34.5**	**23**	**55**	**225**	**65**	**28**	**17**	**48**
RJF	136	32	35	23.5	57	62	18	49.5	28	79	74	14	32	18.5	47.5
RTG	268	100	28.5	17	45	117	49	30	17	45	151	51	24.5	15	48.5
N15	**772**	**238**	**22**	**11**	**36**	**348**	**109**	**28**	**16**	**42**	**424**	**129**	**18**	**9**	**34**
RNQ	174	78	31	20.5	49.5	83	30	31	21	53	91	48	34	20	48
RNS	143	27	27.5	11.5	42.5	82	16	34	21	49	61	11	16	8	36
RWE	455	133	19	9	32	183	63	22	14	35	272	70	15	8	28
N20	**513**	**125**	**19**	**7**	**40**	**254**	**74**	**26**	**14.5**	**44.5**	**259**	**51**	**12**	**5**	**33.5**
RC9	146	62	22	8.5	48	67	31	24.5	15	49	79	31	15.5	6	42.5
RWH	175	24	16	5	35	80	17	21	9	36	95	7	13	4	35
RWG	192	39	21	8	42	107	26	35	21	46	85	13	11	5	20
N21	**558**	**260**	**19**	**7**	**35**	**203**	**106**	**22**	**10**	**46**	**355**	**154**	**14**	**4**	**30**
RAS	105	10	7	2	14	34	5	8	7	15	71	5	6	2	13
RFW	83	7	27	10	57.5	27	4	48	18	79	56	3	21	6	40
RYJ	195	116	25	12	36	64	44	26.5	14	36	131	72	21	11	41
RQM	67	67	.	.	.	2	2	.	.	.	65	65	.	.	.
RT3	5	5	.	.	.	3	3	.	.	.	2	2	.	.	.
RV8	59	44	35	20	47	57	44	30	20	47	2	0	40	36	44
RC3	43	11	23	11	47.5	15	4	45	28	56	28	7	20	7	26
RFU	1	0	29	29	29	1	0	29	29	29	0				
N22	**425**	**157**	**22**	**10**	**46**	**89**	**32**	**42**	**15**	**64**	**336**	**125**	**19**	**9**	**37**
RAL	95	20	18	9	46	24	8	54	29	78	71	12	16	7	30
RAP	62	26	9	0	36	29	10	15	0	43	33	16	3	0	9
RKE	75	13	23	13	47	24	5	44	28	73	51	8	19	11	33
RQW	12	12	.	.	.	0					12	12	.	.	.
RRV	142	57	31	16	49	5	3	30.5	4	57	137	54	31	16	49
RVL	39	29	15	10	21	7	6	49	49	49	32	23	12	10	19
N23	**740**	**268**	**27**	**14**	**42**	**326**	**140**	**32.5**	**20**	**49**	**414**	**128**	**21**	**11**	**38**
RF4	276	77	26	15	42	110	25	29	18	47	166	52	24	12	39
RGC	121	26	26	14	49	59	21	42.5	28	67	62	5	19	9	30
RNH	118	49	19	10	38	21	8	20	7	49	97	41	17.5	10	36
RNJ	168	96	30.5	19	42.5	111	79	29.5	21	41	57	17	31	17.5	44.5
RQX	57	20	28	12	36	25	7	29	16	40	32	13	21	6	34

	Referral to Date First Seen														
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code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N24	**611**	**49**	**4**	**0**	**10**	**265**	**12**	**9**	**6**	**12**	**346**	**37**	**0**	**0**	**2**
RG2	165	0	2	0	9	67	0	9	6	13	98	0	0	0	1
RG3	155	2	4	1	7	72	1	6	4	10	83	1	1	0	3
RGZ	73	34	4	0	7	31	7	7	4.5	8	42	27	0	0	0
RJ1	55	1	10	5	14	32	0	10	7	14	23	1	9.5	4	14
RJ2	58	12	10.5	0	13	23	4	12	10	18	35	8	6	0	12
RJZ	105	0	0	0	10	40	0	12	7.5	13.5	65	0	0	0	0
N25	**377**	**0**	**4**	**0**	**10**	**143**	**0**	**9**	**7**	**12**	**234**	**0**	**0**	**0**	**3**
5LG	3	0	12	4	13	3	0	12	4	13	0				
RPY	1	0	7	7	7	1	0	7	7	7	0				
RJ6	58	0	4	0	7	21	0	6	5	11	37	0	1	0	6
RJ7	76	0	4	0	8	23	0	8	7	12	53	0	0	0	5
RVR	142	0	6	0	11	67	0	10	8	13	75	0	0	0	2
RAX	97	0	0	0	9	28	0	10	7.5	13	69	0	0	0	0
N26	**997**	**377**	**8**	**4**	**12**	**499**	**18**	**9**	**6**	**12**	**498**	**359**	**0**	**0**	**2**
RA9	173	1	4	0	11	80	0	10	6	12	93	1	0	0	1
RBZ	51	10	6	4	11	41	5	6	5	11	10	5	0	0	1
REF	319	192	8	6	11	125	4	8	6	10	194	188	0	0	39
RH8	171	56	7	2	12	97	3	10	7	12	74	53	0	0	0
RK9	283	118	10	8	13	156	6	10	8	13	127	112	4	1	29
N27	**493**	**6**	**5**	**0**	**10**	**248**	**0**	**8**	**6**	**12**	**245**	**6**	**0**	**0**	**4**
RBD	121	1	6	0	11	63	0	9	7	13	58	1	0	0	3
RD3	160	5	2	0	8	79	0	7	3	10	81	5	0	0	0
RDZ	212	0	6.5	0	11.5	106	0	8	6	12	106	0	0	0	8
N28	**518**	**224**	**8**	**6**	**12**	**286**	**30**	**8**	**6**	**12**	**232**	**194**	**1**	**0**	**13**
RA3	99	48	7	5	8	53	5	7	5	8.5	46	43	0	0	3
RA4	67	30	8	3	10	37	7	8.5	6	10	30	23	0	0	0
RA7	95	27	7.5	6	12.5	59	1	7.5	6	12	36	26	9	0	23
RBA	151	75	9.5	5	13	72	6	10	7	13	79	69	0	0	2
RD1	55	33	8.5	4	10	26	8	7.5	3	10	29	25	9	9	11
RVJ	51	11	11	8	13.5	39	3	11	8	13	12	8	16.5	6	93.5
N29	**315**	**22**	**7**	**1**	**12**	**224**	**4**	**8**	**2**	**12**	**91**	**18**	**2**	**0**	**13**
RLQ	112	0	7	0	12	92	0	7	0	11	20	0	0	0	19
RTE	203	22	7	1	12	132	4	8	3	12	71	18	2	0	12
N30	**882**	**233**	**8**	**0**	**13**	**489**	**40**	**10**	**7**	**13**	**393**	**193**	**0**	**0**	**1.5**
RD7	74	17	0	0	0	12	0	8	5	12.5	62	17	0	0	0
RD8	83	11	6.5	0	12	57	3	9.5	4	12	26	8	0	0	0
RHW	195	10	10	0	13	116	0	12	9	14	79	10	0	0	5
RN3	155	59	10	7	14	85	4	10	8	14	70	55	3	0	14
RP1	1	0	9	9	9	1	0	9	9	9	0				
RTH	244	114	9.5	6	13	132	24	10	8	13	112	90	0	0	0
RXQ	130	22	7	3	10.5	86	9	8	5	11	44	13	1	0	7
N31	**415**	**65**	**4**	**0**	**8**	**230**	**16**	**6**	**4**	**10**	**185**	**49**	**0**	**0**	**1.5**
RHM	8	0	7.5	0.5	15	2	0	12.5	11	14	6	0	2.5	0	16
RN1	113	59	8	6	11	66	15	9	6	12	47	44	1	0	1
RN5	55	0	5	2	8	27	0	6	5	12	28	0	4	0	7.5
RNZ	86	0	0	0	0	48	0	0	0	3	38	0	0	0	0
RPR	121	2	4	0	8	66	0	6	4	9	55	2	0	0	1
RR2	32	4	5	3	7.5	21	1	5	3	7	11	3	2	0	17

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Code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N24	**611**	**251**	**27**	**12.5**	**47**	**265**	**97**	**36**	**21**	**55**	**346**	**154**	**20**	**7**	**41**
RG2	165	36	24	13	44	67	12	35	20	50	98	24	19.5	9	41
RG3	155	24	24	10	47	72	8	35	18	63	83	16	20	5	40
RGZ	73	69	9.5	0	27.5	31	29	27.5	19	36	42	40	0	0	0
RJ1	55	10	35	14	53	32	1	42	25	55	23	9	7.5	4	41
RJ2	58	17	35	24	50	23	8	44	25	52	35	9	32.5	15	43
RJZ	105	95	13.5	7	30	40	39	29	29	29	65	56	13	7	30
N25	**377**	**194**	**31**	**18**	**46**	**143**	**64**	**36**	**28**	**49**	**234**	**130**	**27.5**	**14**	**44**
5LG	3	1	43.5	38	49	3	1	43.5	38	49	0				
RPY	1	1	.	.	.	1	1	.	.	.	0				
RJ6	58	18	34	25.5	44	21	6	35	28	56	37	12	33	22	44
RJ7	76	53	23	14	45	23	12	29	16	45	53	41	20	7	39.5
RVR	142	88	29	16	49	67	35	41.5	29	53.5	75	53	16	10	21
RAX	97	33	33.5	21	46.5	28	9	35	29	47	69	24	33	20	46
N26	**997**	**182**	**29**	**12**	**51**	**499**	**101**	**35**	**21**	**50**	**498**	**81**	**21**	**6**	**54**
RA9	173	25	30.5	13	51	80	14	41	24	51	93	11	23.5	9	51
RBZ	51	15	35.5	15.5	52	41	11	35.5	16	52	10	4	32	7	81
REF	319	51	24	4	50	125	20	29	19	43	194	31	13	0	60
RH8	171	41	35.5	17	61	97	22	35	20	52	74	19	37	13	185
RK9	283	50	28	14	48	156	34	35	21	50	127	16	19	8	34
N27	**493**	**92**	**27**	**11**	**44**	**248**	**45**	**35**	**21**	**50**	**245**	**47**	**15**	**6**	**34**
RBD	121	24	24	10	42	63	13	32	18	46	58	11	17	9	31
RD3	160	31	30	19	47	79	15	35	22	55	81	16	24	12	42
RDZ	212	37	23	7	45	106	17	37	23	52	106	20	9	5	23
N28	**518**	**117**	**35**	**17**	**53**	**286**	**52**	**37.5**	**21**	**54**	**232**	**65**	**26**	**12**	**52**
RA3	99	9	27	16	50	53	6	37	20	50	46	3	20	12	43
RA4	67	18	33	19	53	37	9	36.5	24.5	54.5	30	9	31	9	46
RA7	95	32	37	19	63	59	14	38	27	63	36	18	33.5	10	62
RBA	151	24	37	17	54	72	4	38.5	20	54	79	20	36	12	57
RD1	55	21	29	13	49	26	11	40	22	60	29	10	21	10	44
RVJ	51	13	33.5	16	51	39	8	35	21	51	12	5	16	2	82
N29	**315**	**83**	**44**	**25**	**65.5**	**224**	**52**	**44.5**	**27.5**	**65**	**91**	**31**	**41.5**	**22**	**68.5**
RLQ	112	25	43	23	62	92	22	43	24	62	20	3	42	12	49
RTE	203	58	46	28	67	132	30	47	30	67	71	28	41	24	70
N30	**882**	**329**	**28**	**14**	**43**	**489**	**157**	**30.5**	**20**	**46**	**393**	**172**	**21**	**8**	**38**
RD7	74	34	26.5	14	42	12	5	42	28	46	62	29	21	14	35
RD8	83	49	36.5	21	45	57	34	36	20	46	26	15	37	21	45
RHW	195	44	32	18	49	116	24	34.5	21	49.5	79	20	30	15	46
RN3	155	25	14	6	32	85	12	21	14	39	70	13	7	1	16
RP1	1	1	.	.	.	1	1	.	.	.	0				
RTH	244	134	26	15	40	132	60	28	16	39.5	112	74	20.5	10	41
RXQ	130	42	33	25	48.5	86	21	37	27	49	44	21	28	13	37
N31	**415**	**118**	**35**	**17**	**59**	**230**	**67**	**38**	**22**	**59**	**185**	**51**	**28**	**9**	**61**
RHM	8	8	.	.	.	2	2	.	.	.	6	6	.	.	.
RN1	113	46	32	17	52	66	28	30	20	52	47	18	34	12	54
RN5	55	4	23	14	56	27	3	25	13.5	45.5	28	1	23	14	63
RNZ	86	19	31	17	54	48	13	35	20	63	38	6	26	8.5	46
RPR	121	24	50	28	72	66	10	52	35	72.5	55	14	29	9	72
RR2	32	17	28	13	59	21	11	39	20	59	11	6	14	8	48

	Referral to Date First Seen														
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code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N32	**242**	**50**	**7**	**0**	**12**	**126**	**1**	**9**	**6**	**13**	**116**	**49**	**0**	**0**	**3**
RA2	54	3	6	0	11	28	0	9.5	6.5	13	26	3	0	0	0
RTK	43	1	8	1	11	28	0	9	7	11.5	15	1	0	0	6
RDU	18	7	7	5	12	11	0	7	5	12	7	7	.	.	.
RTP	127	39	7	1	12.5	59	1	9	6	13	68	38	0	0	6
N33	**461**	**407**	**10**	**0**	**14**	**29**	**2**	**12**	**9**	**14**	**432**	**405**	**0**	**0**	**12**
RPL	108	59	10	0	13	26	1	12	9	13	82	58	0	0	11
RXC	221	220	0	0	0	1	1	.	.	.	220	219	0	0	0
RXH	132	128	73.5	39	162.5	2	0	73.5	69	78	130	128	128	9	247
N34	**509**	**217**	**10**	**7**	**13**	**290**	**33**	**11**	**8**	**13**	**219**	**184**	**0**	**0**	**7**
RN7	87	0	7	2	12	54	0	8	7	13	33	0	0	0	7
RPA	20	12	7.5	5.5	8.5	10	3	7	5	8	10	9	444	444	444
RWF	171	100	10	6	13	87	16	10	6	13	84	84	.	.	.
RVV	231	105	12	9	14	139	14	12	9	14	92	91	0	0	0
N35	**234**	**4**	**6**	**0**	**12**	**122**	**0**	**8**	**3**	**12**	**112**	**4**	**0**	**0**	**7.5**
RJD	148	3	7	0	12	75	0	11	7	13	73	3	0	0	5
RJE	23	0	6	2	12	13	0	8	4	11	10	0	4	0	14
RL4	62	0	1	0	8	34	0	0	0	3	28	0	4.5	0	14.5
RXW	1	1	.	.	.	0					1	1	.	.	.
N36	**2,291**	**60**	**5**	**0**	**9**	**1,193**	**10**	**7**	**5**	**11**	**1,098**	**50**	**0**	**0**	**3**
RE9	148	0	2	0	7	68	0	6	3	9	80	0	0	0	0
RLN	269	47	6	1	10	111	9	10	7	13	158	38	1	0	6
RNL	215	8	7	2	12	128	1	9	7	13	87	7	1	0	8
RR7	106	0	7	0	12	53	0	9	7	13	53	0	0	0	7
RTD	219	1	3	0	8	100	0	6	2	8	119	1	0	0	7
RTF	320	4	7	0	10.5	189	0	8	6	13	131	4	0	0	4
RTR	302	0	5	0	7	169	0	6	5	8	133	0	0	0	3
RVW	320	0	2	0	9	168	0	8	5	13	152	0	0	0	0
RXP	392	0	5	0	10	207	0	7	5	11	185	0	0	0	1
N37	**704**	**245**	**8**	**3**	**12**	**405**	**43**	**8**	**6**	**12**	**299**	**202**	**1**	**0**	**8**
RC1	81	0	5	0	9	49	0	7	5	12	32	0	0	0	2
RCX	67	17	7.5	6	12	54	7	8	7	12	13	10	3	0	3
RGM	5	3	50.5	32	69	2	1	32	32	32	3	2	69	69	69
RGN	30	2	13	6.5	15	23	1	13	6	14	7	1	24	9	37
RGP	64	3	8	1	13	37	0	11	7	13	27	3	0.5	0	6.5
RGQ	10	5	13	8	14	5	0	13	8	14	5	5	.	.	.
RGR	123	62	6	3	8	71	16	6	4	9	52	46	0	0	0
RGT	68	0	8	6	11.5	66	0	8	6	12	2	0	0	0	0
RM1	206	150	9	5	12	49	16	10	7	13	157	134	8	5	11
RQQ	50	3	8	6	11	49	2	8	6	11	1	1	.	.	.
N38	**653**	**91**	**6**	**0**	**9**	**322**	**5**	**8**	**5**	**12**	**331**	**86**	**0**	**0**	**4**
RAJ	205	0	6	0	11	109	0	9	7	13	96	0	0	0	4.5
RDD	149	15	1.5	0	7	68	2	7	5	8	81	13	0	0	0
RDE	201	2	6	2	9	120	0	7	3	9	81	2	3	1	7
RQ8	98	74	10.5	8	13	25	3	12	8	13	73	71	7.5	7	8
SEW	**943**	**0**	**6**	**0**	**13**	**382**	**0**	**12**	**7**	**16**	**561**	**0**	**0**	**0**	**7**
RVM	303	0	8	2	14	121	0	12	7	16	182	0	5	0	12
RRS	119	0	4	0	12	46	0	12	8	14	73	0	1	0	4
RVE	139	0	3	0	9	50	0	8	6	14	89	0	0	0	4
RVF	382	0	6	0	14	165	0	13	8	18	217	0	0	0	2

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Code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
N32	**242**	**64**	**33**	**19**	**50**	**126**	**32**	**38.5**	**28**	**54**	**116**	**32**	**23**	**14**	**43.5**
RA2	54	9	49	33	65	28	6	52.5	39	66	26	3	43	22	65
RTK	43	13	31.5	23	48	28	5	34	28	49	15	8	20	9	35
RDU	18	11	55	39	69	11	5	57	46	69	7	6	15	15	15
RTP	127	31	26.5	15.5	41.5	59	16	33	24	47	68	15	19	11	35
N33	**461**	**131**	**21**	**7**	**47**	**29**	**4**	**39**	**26**	**50**	**432**	**127**	**20**	**7**	**46**
RPL	108	25	34	14	50	26	3	42	27	73	82	22	24	12	49
RXC	221	55	23	7	57	1	1	.	.	.	220	54	23	7	57
RXH	132	51	11	1	22	2	0	0	0	0	130	51	12	2	23
N34	**509**	**82**	**36**	**20**	**54**	**290**	**53**	**44**	**30**	**58**	**219**	**29**	**23**	**12**	**44**
RN7	87	20	37	28	52	54	12	42.5	34	55	33	8	29	13	38
RPA	20	2	39.5	20	56	10	0	55	40	57	10	2	25.5	18.5	38
RWF	171	32	30	16	48	87	21	40	27	53	84	11	20	10	41
RVV	231	28	40	21	62	139	20	48	30	67	92	8	30.5	14.5	50.5
N35	**234**	**97**	**35**	**23**	**56**	**122**	**54**	**44.5**	**28**	**57**	**112**	**43**	**28**	**17**	**44**
RJD	148	81	31	19	48	75	47	39	26.5	49.5	73	34	24	14	37
RJE	23	4	29	26	46	13	1	35	27	47.5	10	3	26	13	34
RL4	62	11	46	26	72	34	6	55.5	33	85.5	28	5	30	18	70
RXW	1	1	.	.	.	0					1	1	.	.	.
N36	**2,291**	**672**	**29**	**16**	**50**	**1,193**	**365**	**35**	**22**	**54**	**1,098**	**307**	**23**	**12**	**44**
RE9	148	22	29	16	52	68	11	34	22	52	80	11	24	13	48
RLN	269	41	28.5	15	49	111	21	36	26	64	158	20	23	10	40
RNL	215	134	45	26	73	128	72	47	31	76	87	62	34	6	62
RR7	106	7	32	17	57	53	5	33.5	19	55.5	53	2	30	17	60
RTD	219	18	26	17	41	100	7	30	22	48	119	11	22	13	35
RTF	320	128	28	18	44	189	75	28	21	44	131	53	29	13	44
RTR	302	142	27	14	43	169	83	30.5	21	43	133	59	19.5	10	43
RVW	320	14	29	14	55	168	10	38.5	23	58	152	4	20	11	40
RXP	392	166	31	17	52	207	81	37	22	51	185	85	26.5	14	57
N37	**704**	**247**	**29**	**17**	**44**	**405**	**174**	**30**	**17**	**45**	**299**	**73**	**27**	**17**	**43**
RC1	81	6	28	15	43	49	5	30	15.5	47	32	1	23	15	34
RCX	67	8	24	15	44	54	6	29.5	16	44	13	2	15	10	24
RGM	5	4	38	38	38	2	2	.	.	.	3	2	38	38	38
RGN	30	13	23	9	35	23	12	28	13	40	7	1	12.5	7	25
RGP	64	23	25	18	36	37	11	28.5	20	39	27	12	23	13	29
RGQ	10	9	3	3	3	5	5	.	.	.	5	4	3	3	3
RGR	123	35	28.5	15.5	43.5	71	18	28	16	41	52	17	29	15	49
RGT	68	68	.	.	.	66	66	.	.	.	2	2	.	.	.
RM1	206	44	34.5	20	49	49	12	42	19	53	157	32	34	20	49
RQQ	50	37	30	27	44	49	37	32.5	28	46.5	1	0	24	24	24
N38	**653**	**110**	**26**	**12**	**44**	**322**	**42**	**33**	**19.5**	**50.5**	**331**	**68**	**18**	**7**	**39**
RAJ	205	15	23	10	42	109	7	27.5	16	46	96	8	14	6	32.5
RDD	149	27	28.5	13	45	68	12	38	23	55	81	15	19.5	7	40
RDE	201	21	27.5	14	43	120	12	33	20	49	81	9	17	7	39
RQ8	98	47	29	17	50	25	11	45.5	23	72	73	36	27	15	42
SEW	**943**	**248**	**28**	**13**	**56**	**382**	**102**	**41**	**22**	**70.5**	**561**	**146**	**20**	**9**	**43**
RVM	303	50	20	8	39	121	21	36	16.5	61.5	182	29	14	4	28
RRS	119	48	28	16	61	46	15	29	21	76	73	33	26.5	12.5	59
RVE	139	34	33	16	49	50	15	42	35	77	89	19	20	8	43
RVF	382	116	37	16	77	165	51	48.5	25	90	217	65	27	13	60.5

	Referral to Date First Seen														
	All					GP Referral					Non-GP Referral				
code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
SWW	**614**	**0**	**4**	**0**	**11**	**263**	**0**	**8**	**5**	**14**	**351**	**0**	**0**	**0**	**7**
RVA	132	0	6	1	13	61	0	10	6	15	71	0	2	0	7
RKU	21	0	3	0	7	12	0	6.5	3.5	7.5	9	0	0	0	0
RR6	99	0	3	0	10	47	0	8	3	13	52	0	0	0	7
RVC	193	0	2	0	6	73	0	6	4	10	120	0	0	0	1
RVD	169	0	7	0	13	70	0	11	5	19	99	0	2	0	10
NW	**425**	**0**	**4**	**0**	**8**	**231**	**0**	**7**	**4**	**11**	**194**	**0**	**0**	**0**	**4**
RT7	126	0	5	0	7	66	0	7	5	10	60	0	0	0	0
RT8	139	0	5	0	11	70	0	9.5	6	14	69	0	0	0	5
RT9	160	0	3.5	0	7	95	0	5	2	8	65	0	0	0	4
Total	**22628**	**3,325**	**6**	**0**	**11**	**10,576**	**394**	**8**	**6**	**12**	**12,052**	**2,931**	**0**	**0**	**6**

Excluded refers to cases where there is insufficient data to calculate a time interval
Non GP referrals include cases where the source of referral was unknown
A median of zero for GP referrals may be indicative of incomplete data submissions or poor data quality

	Date First seen to Treatment														
	All					GP Referral					Non-GP Referral				
Code	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile	Number	excluded	Median	Lower quartile	Upper quartile
SWW	**614**	**225**	**32**	**15**	**63**	**263**	**98**	**42**	**21**	**90**	**351**	**127**	**25**	**14**	**52.5**
RVA	132	46	21	6	41	61	26	34	13	67	71	20	15	5	29
RKU	21	4	30	18	39	12	2	32	18	46	9	2	25	18	36
RR6	99	52	41	14	111	47	28	107	41	221	52	24	27.5	11.5	54
RVC	193	51	28	15	53	73	14	38	20	56	120	37	21	14	46
RVD	169	72	53	28	110	70	28	70	34	186	99	44	41	22	72
NW	**425**	**134**	**32**	**14**	**69**	**231**	**70**	**36**	**19**	**70**	**194**	**64**	**24.5**	**9**	**66**
RT7	126	48	54	27	128	66	19	43	23	107	60	29	68	42	138
RT8	139	37	22	8	42	70	19	28	14	48	69	18	15	7	40
RT9	160	49	29	14	92	95	32	38	20	105	65	17	21	7.5	58.5
Totals	**22,628**	**6,746**	**29**	**15**	**49**	**10,576**	**3,202**	**35**	**21**	**52**	**12,052**	**3,544**	**23**	**11**	**45**

Table 7.1 reports the results by trust and network for the time from referral to first appointment and time from first appointment to first treatment. The results are reported separately for all patients, for those referred by their GP and those referred through routes other than their GP (mainly emergency presentations). The GP referrals include those patients referred urgently with suspected lung cancer (which is subsequently confirmed) as well as those referred routinely and not suspected to have cancer, where cancer is later diagnosed. Some organisations (for example those that only collect the key data items) do not collect data on the source of referral and if this is the case, the split between types of referral show in the table may be inaccurate. Please note that trusts have a statutory obligation to report waiting times through a different reporting mechanism called Cancer Waiting Times – further details can be found at http://www.performance.doh.gov.uk/cancerwaits/. Also note that the way the NLCA reports time intervals differs in that it does not specifically differentiate patients referred via the '2 week wait' and does not include any adjustments.

For referral to date first seen, the results show that overall there is a median wait of 6 days, with an interquartile range of 0-11 days. Non-GP referrals have a much shorter pathway, reflecting the fact that these patients are often emergency presentations within the hospital setting and thus have more rapid access to a specialist, with an interquartile range of 0-6 days and a median of 0 days. For GP referrals, the interquartile range is 6-12 days with a median of 8 days.

For date first seen to treatment, the results show an overall median wait of 29 days, with an interquartile range of 15-49 days. Again GP referrals have a longer pathway with a median wait of 35 days and an interquartile range of 21 to 52 days. For the non-GP referrals the results show a median of 23 days and an interquartile range of 11-45 days. This shorter period again reflects that fact that these patients will often be hospital in-patients.

In Scotland the main waiting times targets is "maximum 62 day wait from urgent referral to first treatment". Headline results, including those for lung cancer, are published by the Scottish Executive on: www.scotland.gov.uk/Topics/Health/health/cancer.

8.0 What Standard Of Care Do Lung Cancer Patients Receive?

8.1 Summary

The overall aim of the National Lung Cancer Audit is to record information about process and outcomes in lung cancer and through casemix adjustment, identify explanations for the wide variations in outcome that have been noted in previous studies. This section of the report is devoted to those measures of process and outcome that are of key importance in lung cancer.

Based on the performance of Trusts in previous years, a histological confirmation rate of at least 75 per cent is a reasonable benchmark of acceptable practice. For England and Wales, the proportion of patients who have a histological/cytological diagnosis is 67.7 per cent. This is lower than would be expected. Furthermore, this average figure hides wide variation across organisations. Scottish data shows an overall higher confirmation rate with less variation. The proportion of patients that are discussed in an MDT meeting in England and Wales is 87.2 per cent. These results fall short of the national target of 100 per cent, although it is acknowledged that a target of 95 per cent is probably more appropriate. Again, there is a wide variation in practice across organisations. Analysis of treatment rates shows that in England and Wales, 51.3 per cent are recorded as having any anti-cancer treatment (62.3 per cent in Scotland) and 9.9 per cent have surgical resection (9.7 per cent in Scotland). For patients with SCLC, 61.9 per cent have treatment with chemotherapy. Once again, these averages hide wide variation across trusts and networks. Casemix adjustment has been applied to these quality measures, as well as to measures of median survival, and demonstrates that wide variations between organisations persist despite taking these factors into account. Organisations need to examine their own results and use them to assess the need for local service improvement.

Encouragingly, measures of the quality of care do appear to be improving over the life of the National Lung Cancer Audit, with year-on-year increases in the proportions of patients discussed at an MDT, having histological confirmation, and having anti-cancer treatment or surgical resection.

8.2 Process Of Care For Lung Cancer Patients

The previous chapter dealt with the timeliness of treatment. However, it is important to realise that the process of care that leads to a diagnosis may be complex, with several investigations being necessary to establish the diagnosis and stage of disease. For example, a patient may require CT scan, PET scan and mediastinal lymph node sampling to determine the stage of the disease, and multiple biopsy procedures may be necessary to obtain a confirmatory histological specimen. A high rate of histological confirmation, rather than a diagnosis made on clinical grounds or imaging, is considered to be a good marker of the overall quality of care. However, pursuing a histological diagnosis in very sick patients may not be appropriate. There are no published standards on best practice for this aspect of care, and in the LAP last year, a target was set as a minimum of 80 per cent and the table below is based on this. However on reviewing the performance of Trusts over the subsequent year, a histological confirmation rate of at least 75% would seem a more reasonable benchmark of acceptable practice. National guidance suggests that all patients should have a treatment plan discussed at a multidisciplinary team (MDT) meeting. However, some cases will be diagnosed at post-mortem, or will die rapidly before they can be discussed, so a figure of 100 per cent is unachievable and a target of 95 per cent is probably more appropriate.

Table 8.1 indicates the proportions of all patients with lung cancer and mesothelioma having a histological diagnosis and the proportions being discussed at MDT, listed by network and trust. As before, the results are colour-coded to indicate performance against the quality standards derived from the last annual report and the local Action Plan (LAP) issued in 2008. (target achieved=green, target not achieved=red). The data for Scotland has not been formatted in this way. NHS Quality Improvement Scotland (www.nhshealthquality.org) published revised national lung cancer standards in March 2008. These differ in some respects from standards in England and Wales.

For England and Wales, the proportion of patients who have a histological/cytological diagnosis is 67.7 per cent, much lower than the 75 per cent level referred to above. Scottish data shows an overall higher confirmation rate with less variation. The proportion of patients that are discussed in an MDT meeting in England and Wales is 87.2 per cent, much lower than the benchmark standard with wide variation in practice across organisations.

Table 8.1 The proportions of all patients with lung cancer and mesothelioma having a histological diagnosis and the proportions being discussed at MDT, listed by network and by trust.

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
N01	**519**	**52.5**	**80.3**	**18.7**	**1.0**	**74.6**	**12.5**	**12.9**
RTX	141	76.6	91.5	8.5	0.0	85.1	9.9	5.0
RXL	173	71.5	85.5	11.6	2.9	64.7	5.8	29.5
RXN	86	63.2	82.6	17.4	0.0	80.2	12.8	7.0
RXR	119	27.9	58.0	42.0	0.0	72.3	25.2	2.5
N02	**1,145**	**53.7**	**45.9**	**49.2**	**5.0**	**61.3**	**4.8**	**33.9**
RBV*	1	0.6	0.0	100.0	0.0	100.0	0.0	0.0
RJN	79	88.8	74.7	25.3	0.0	69.6	0.0	30.4
RM2	52	16.2	59.6	23.1	17.3	75.0	0.0	25.0
RM3	196	145.2	19.9	59.7	20.4	67.9	0.5	31.6
RM4	6	6.7	66.7	0.0	33.3	83.3	0.0	16.7
RMC	179	91.3	69.8	30.2	0.0	69.8	3.9	26.3
RMP	122	93.8	53.3	41.8	4.9	45.1	11.5	43.4
RRF	115	71.4	48.7	51.3	0.0	58.3	0.0	41.7
RW3	110	106.8	54.5	45.5	0.0	70.0	12.7	17.3
RW6	279	53.2	29.0	71.0	0.0	50.2	6.8	43.0
RWJ	6	5.7	83.3	16.7	0.0	83.3	0.0	16.7
RBT	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N03	**823**	**53.6**	**62.8**	**35.7**	**1.5**	**88.8**	**5.7**	**5.5**
RBL	135	113.4	75.6	24.4	0.0	89.6	5.9	4.4
RBN	161	72.9	50.3	49.7	0.0	98.8	0.6	0.6
RBQ	115	54.2	86.1	13.9	0.0	96.5	0.0	3.5
REM	43	13.3	72.1	27.9	0.0	97.7	2.3	0.0
RJR	128	105.8	64.8	35.2	0.0	81.3	18.8	0.0
RQ6	50	23.1	82.0	18.0	0.0	90.0	0.0	10.0
RVY	20	24.4	15.0	75.0	10.0	95.0	0.0	5.0
RWW	171	88.6	45.0	49.1	5.8	76.0	7.6	16.4
REN*	0	0.0	-	-	-	-	-	-

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
N06	**1,604**	**88.6**	**58.5**	**21.8**	**19.7**	**92.5**	**3.1**	**4.5**
NT2**	1	100.0	100.0	0.0	0.0	100.0	0.0	0.0
RAE	229	95.4	65.5	34.5	0.0	95.2	4.4	0.4
RCB	176	101.7	73.9	26.1	0.0	94.9	4.5	0.6
RCD	81	89.0	79.0	14.8	6.2	75.3	0.0	24.7
RCF	95	80.5	68.4	30.5	1.1	95.8	3.2	1.1
RR8	519	91.9	75.5	24.5	0.0	95.2	4.6	0.2
RWY	109	44.7	71.6	27.5	0.9	87.2	1.8	11.0
RXF	394	103.7	14.7	6.9	78.4	90.4	0.5	9.1
N07	**385**	**51.1**	**72.5**	**27.3**	**0.3**	**97.1**	**2.1**	**0.8**
RJL	68	30.1	76.5	22.1	1.5	91.2	7.4	1.5
RWA	317	79.1	71.6	28.4	0.0	98.4	0.9	0.6
RCC	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N08	**1,094**	**87.8**	**63.3**	**35.7**	**1.0**	**97.2**	**0.2**	**2.7**
RFF	48	36.6	70.8	27.1	2.1	97.9	0.0	2.1
RFS	172	98.9	62.2	37.8	0.0	98.8	0.0	1.2
RHQ	386	80.4	73.8	24.4	1.8	93.5	0.5	6.0
RP5	360	113.6	68.9	30.3	0.8	99.2	0.0	0.8
RFR	128	88.9	14.1	85.9	0.0	100.0	0.0	0.0
N11	**920**	**105.3**	**82.0**	**17.3**	**0.8**	**94.9**	**3.2**	**2.3**
RBK	154	97.5	79.2	19.5	1.3	91.6	6.5	1.9
RR1	264	124.5	85.6	12.5	1.9	90.5	3.8	5.7
RRJ	1	-	100.0	0.0	0.0	100.0	0.0	0.0
RRK	230	93.9	88.7	11.3	0.0	96.1	3.5	0.4
RXK	271	104.6	74.2	25.8	0.0	98.9	0.4	0.7
N12	**402**	**98.3**	**77.1**	**19.2**	**3.7**	**93.0**	**3.7**	**3.2**
RJC	9	180.0	77.8	22.2	0.0	100.0	0.0	0.0
RKB	258	103.6	74.4	20.2	5.4	94.2	5.8	0.0
RLT	121	126.0	80.2	19.0	0.8	100.0	0.0	0.0
RWP	14	23.7	100.0	0.0	0.0	7.1	0.0	92.9
N13	**640**	**75.2**	**65.8**	**15.9**	**18.3**	**98.9**	**0.9**	**0.2**
RK5	200	117.6	82.0	18.0	0.0	99.0	0.5	0.5
RX1	440	132.5	58.4	15.0	26.6	98.9	1.1	0.0
RWD	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
N14	**404**	**126.6**	**79.5**	**18.6**	**2.0**	**90.6**	**8.9**	**0.5**
RJF	136	219.4	69.1	26.5	4.4	91.9	7.4	0.7
RTG	268	104.3	84.7	14.6	0.7	89.9	9.7	0.4
N15	**772**	**102.5**	**71.4**	**19.3**	**9.3**	**90.3**	**4.1**	**5.6**
RNQ	174	119.2	46.0	15.5	38.5	70.7	14.4	14.9
RNS	143	100.7	75.5	23.1	1.4	93.0	0.7	6.3
RWE	455	97.8	79.8	19.6	0.7	96.9	1.3	1.8
N20	**513**	**96.4**	**43.9**	**18.1**	**38.0**	**95.1**	**4.5**	**0.4**
RC9	146	133.9	77.4	5.5	17.1	95.9	2.7	1.4
RWH	175	85.0	46.9	48.0	5.1	95.4	4.6	0.0
RWG	192	88.5	15.6	0.5	83.9	94.3	5.7	0.0
N21	**558**	**69.2**	**52.2**	**35.1**	**12.7**	**91.4**	**4.3**	**4.3**
RAS	105	100.0	57.1	5.7	37.1	95.2	1.9	2.9
RFW	83	150.9	69.9	30.1	0.0	100.0	0.0	0.0
RYJ	195	82.8	20.0	74.9	5.1	100.0	0.0	0.0
RQM	67	126.7	89.5	0.0	10.5	92.5	0.0	7.5
RT3*	5	3.4	100.0	0.0	0.0	80.0	20.0	0.0
RV8	59	38.3	67.8	8.5	23.7	64.4	35.6	0.0
RC3	43	78.2	65.1	32.6	2.3	62.8	0.0	37.2
RFU	1	-	100.0	0.0	0.0	100.0	0.0	0.0
N22	**425**	**58.1**	**90.1**	**8.9**	**0.9**	**78.8**	**12.5**	**8.7**
RAL	95	110.5	83.2	16.8	0.0	91.6	1.1	7.4
RAP	62	73.8	87.1	8.1	4.8	66.1	12.9	21.0
RKE	75	76.5	82.7	16.0	1.3	92.0	6.7	1.3
RQW	12	10.6	100.0	0.0	0.0	16.7	75.0	8.3
RRV	142	102.2	99.3	0.7	0.0	81.7	13.4	4.9
RVL	39	18.4	89.7	10.3	0.0	51.3	28.2	20.5
N23	**740**	**76.0**	**65.7**	**24.5**	**9.9**	**85.1**	**1.8**	**13.1**
RF4	276	93.9	76.4	23.6	0.0	95.3	1.8	2.9
RGC	121	92.4	83.5	16.5	0.0	97.5	2.5	0.0
RNH	118	122.9	55.9	44.1	0.0	89.8	3.4	6.8
RNJ	168	66.7	50.6	6.5	42.9	54.2	0.6	45.2
RQX	57	28.4	40.4	57.9	1.8	91.2	0.0	8.8

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
N24	**611**	**70.0**	**72.8**	**18.7**	**8.5**	**86.3**	**2.6**	**11.1**
RG2	165	117.9	73.9	26.1	0.0	93.3	0.0	6.7
RG3	155	123.0	78.1	21.3	0.6	94.2	3.2	2.6
RGZ	73	70.2	41.1	12.3	46.6	63.0	1.4	35.6
RJ1	55	20.1	92.7	1.8	5.5	49.1	1.8	49.1
RJ2	58	50.0	70.7	27.6	1.7	86.2	13.8	0.0
RJZ	105	92.1	76.2	11.4	12.4	99.0	1.0	0.0
N25	**377**	**48.0**	**68.7**	**26.0**	**5.3**	**30.8**	**3.2**	**66.0**
5LG	3	42.9	100.0	0.0	0.0	66.7	0.0	33.3
RPY	1	0.6	0.0	0.0	100.0	0.0	100.0	0.0
RJ6	58	54.2	27.6	72.4	0.0	1.7	1.7	96.6
RJ7	76	39.4	90.8	9.2	0.0	13.2	0.0	86.8
RVR	142	75.5	66.2	20.4	13.4	19.7	4.9	75.4
RAX	97	80.8	79.4	20.6	0.0	77.3	3.1	19.6
N26	**997**	**108.4**	**68.4**	**30.1**	**1.5**	**89.7**	**4.9**	**5.4**
RA9	173	110.9	77.5	22.5	0.0	96.5	2.3	1.2
RBZ	51	60.0	74.5	25.5	0.0	92.2	5.9	2.0
REF	319	143.0	62.1	37.9	0.0	92.2	7.2	0.6
RH8	171	85.5	74.3	17.0	8.8	76.0	0.0	24.0
RK9	283	110.5	65.4	34.6	0.0	90.5	6.7	2.8
N27	**493**	**122.6**	**66.5**	**33.1**	**0.4**	**98.6**	**0.8**	**0.6**
RBD	121	147.6	68.6	30.6	0.8	99.2	0.0	0.8
RD3	160	106.7	72.5	26.9	0.6	96.9	2.5	0.6
RDZ	212	124.7	60.8	39.2	0.0	99.5	0.0	0.5
N28	**518**	**61.4**	**72.0**	**28.0**	**0.0**	**90.2**	**3.3**	**6.6**
RA3	99	137.5	88.9	11.1	0.0	86.9	3.0	10.1
RA4	67	95.7	83.6	16.4	0.0	97.0	3.0	0.0
RA7	95	27.9	76.8	23.2	0.0	89.5	2.1	8.4
RBA	151	111.9	71.5	28.5	0.0	96.0	2.6	1.3
RD1	55	103.8	52.7	47.3	0.0	76.4	1.8	21.8
RVJ	51	29.5	37.3	62.7	0.0	86.3	9.8	3.9

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
N29	**315**	**65.9**	**83.8**	**16.2**	**0.0**	**96.5**	**2.9**	**0.6**
RLQ	112	151.4	76.8	23.2	0.0	96.4	3.6	0.0
RTE	203	83.2	87.7	12.3	0.0	96.6	2.5	1.0
RWP	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N30	**882**	**85.5**	**76.3**	**13.7**	**10.0**	**89.6**	**3.5**	**6.9**
RD7	74	66.1	95.9	4.1	0.0	83.8	16.2	0.0
RD8	83	86.5	83.1	4.8	12.0	74.7	4.8	20.5
RHW	195	94.7	78.5	20.5	1.0	96.4	3.6	0.0
RN3	155	137.2	61.3	38.7	0.0	94.2	5.2	0.6
RP1	1	-	100.0	0.0	0.0	100.0	0.0	0.0
RTH	244	80.5	66.8	2.9	30.3	84.8	0.0	15.2
RXQ	130	64.7	93.1	5.4	1.5	95.4	0.0	4.6
N31	**415**	**38.0**	**75.7**	**18.3**	**6.0**	**91.1**	**6.5**	**2.4**
RHM	8	1.8	12.5	0.0	87.5	12.5	0.0	87.5
RN1	113	120.2	75.2	11.5	13.3	92.9	7.1	0.0
RN5	55	141.0	58.2	41.8	0.0	90.9	5.5	3.6
RNZ	86	121.1	73.3	25.6	1.2	100.0	0.0	0.0
RPR	121	112.0	86.8	13.2	0.0	86.0	13.2	0.8
RR2	32	60.4	87.5	6.3	6.3	100.0	0.0	0.0
RHU	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N32	**242**	**44.8**	**82.6**	**16.1**	**1.2**	**76.9**	**5.8**	**17.4**
RA2	54	49.5	94.4	1.9	3.7	64.8	16.7	18.5
RTK	43	27.0	95.3	2.3	2.3	44.2	4.7	51.2
RDU	18	15.5	100.0	0.0	0.0	50.0	16.7	33.3
RTP	127	81.4	70.9	29.1	0.0	96.9	0.0	3.1
N33	**461**	**74.4**	**58.4**	**20.6**	**21.0**	**74.2**	**5.9**	**20.0**
RPL	108	77.1	66.7	33.3	0.0	83.3	4.6	12.0
RXC	221	96.5	77.4	22.2	0.5	89.1	9.5	1.4
RXH	132	52.6	19.7	7.6	72.7	41.7	0.8	57.6
N34	**509**	**56.4**	**44.4**	**45.6**	**10.0**	**65.4**	**5.7**	**28.9**
RN7	87	71.9	89.7	9.2	1.1	97.7	1.1	1.1
RPA	20	9.8	80.0	20.0	0.0	95.0	0.0	5.0
RWF	171	84.2	11.1	74.3	14.6	19.3	0.0	80.7
RVV	231	61.8	48.9	40.3	10.8	84.8	12.1	3.0

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
N35	**234**	**21.9**	**88.9**	**10.7**	**0.4**	**99.6**	**0.0**	**0.4**
RJD	148	121.3	90.5	9.5	0.0	100.0	0.0	0.0
RJE	23	6.7	87.0	13.0	0.0	100.0	0.0	0.0
RL4	62	32.8	87.1	12.9	0.0	100.0	0.0	0.0
RXW	1	0.5	0.0	0.0	100.0	0.0	0.0	100.0
RNA	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N36	**2,291**	**107.4**	**68.5**	**24.7**	**6.7**	**91.7**	**3.7**	**4.6**
RE9	148	110.4	68.9	31.1	0.0	98.6	0.7	0.7
RLN	269	119.0	79.9	20.1	0.0	99.6	0.0	0.4
RNL	215	126.5	69.3	25.6	5.1	89.3	3.7	7.0
RR7	106	80.3	47.2	51.9	0.9	83.0	2.8	14.2
RTD	219	131.9	82.2	16.4	1.4	89.0	0.5	10.5
RTF	320	87.9	51.3	16.6	32.2	84.7	1.3	14.1
RTR	302	111.9	79.8	19.5	0.7	94.0	4.0	2.0
RVW	320	106.7	62.2	37.8	0.0	84.1	15.9	0.0
RXP	392	105.4	68.9	22.4	8.7	99.0	1.0	0.0
N37	**704**	**51.5**	**68.0**	**17.6**	**14.3**	**80.3**	**2.1**	**17.6**
RC1	81	142.1	67.9	28.4	3.7	97.5	2.5	0.0
RCX	67	59.8	98.5	1.5	0.0	83.6	11.9	4.5
RGM*	5	1.9	60.0	0.0	40.0	80.0	0.0	20.0
RGN	30	27.8	46.7	23.3	30.0	100.0	0.0	0.0
RGP	64	48.9	90.6	9.4	0.0	90.6	1.6	7.8
RGQ	10	5.8	100.0	0.0	0.0	0.0	10.0	90.0
RGR	123	236.5	61.8	37.4	0.8	100.0	0.0	0.0
RGT*	68	66.0	11.8	0.0	88.2	97.1	0.0	2.9
RM1	206	60.9	82.5	17.5	0.0	52.9	1.5	45.6
RQQ	50	142.9	38.0	10.0	52.0	80.0	0.0	20.0
N38	**653**	**96.3**	**81.2**	**18.2**	**0.6**	**84.1**	**3.5**	**12.4**
RAJ	205	106.8	86.3	13.7	0.0	89.3	5.4	5.4
RDD	149	84.7	57.7	40.3	2.0	87.9	0.0	12.1
RDE	201	114.2	85.6	13.9	0.5	92.0	6.0	2.0
RQ8	98	73.1	96.9	3.1	0.0	51.0	0.0	49.0

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
SEW	**943**	**123.4**	**63.5**	**36.5**	**0.0**	**91.6**	**2.0**	**6.4**
RVM	303	109.8	66.7	33.3	0.0	97.0	2.3	0.7
RRS	119	108.2	59.7	40.3	0.0	97.5	2.5	0.0
RVE	139	136.3	75.5	24.5	0.0	95.0	2.2	2.9
RVF	382	138.4	57.9	42.1	0.0	84.3	1.6	14.1
SWW	**614**	**91.8**	**75.7**	**24.3**	**0.0**	**94.5**	**3.3**	**2.3**
RVA	132	99.2	72.0	28.0	0.0	97.0	3.0	0.0
RKU	21	61.8	95.2	4.8	0.0	95.2	4.8	0.0
RR6	99	113.8	69.7	30.3	0.0	94.9	5.1	0.0
RVC	193	79.4	72.5	27.5	0.0	95.3	4.7	0.0
RVD	169	98.3	83.4	16.6	0.0	91.1	0.6	8.3
NW	**425**	**98.2**	**79.1**	**20.9**	**0.0**	**87.3**	**0.0**	**12.7**
RT7	126	113.5	88.1	11.9	0.0	96.0	0.0	4.0
RT8	139	77.2	78.4	21.6	0.0	69.8	0.0	30.2
RT9	160	112.7	72.5	27.5	0.0	95.6	0.0	4.4
Total	**22628**	**75.2**	**67.7**	**25.3**	**7.0**	**87.2**	**3.8**	**9.0**

Notes: colour-coding: =met the quality standards reported in previous annual report; =did not meet quality standard.

* Tertiary treatment centre. Results are based on the trust at which the patient is first seen. Some tertiary treatment trusts see few (or no) patients at presentation and so appear to have poor data completeness which may be misleading. It is important to realise that for these trusts the usual targets do not apply (hence show in blue) – instead the audit relies upon these trusts to upload important treatment data on the patients they see.

** Private Hospital

Trust code RRJ has been entered in error. This case was first seen at RKB and diagnosed at RRJ. The uploading trust has corrected these data in the LUCADA database.

RFR self-report that there was an error in their data submission affecting the HCR rate. This has subsequently been updated in the LUCADA database.

RQX self-report that their case ascertainment is approximately 67 per cent. The NLCA is investigating this.

Several Trusts uploaded data after the June deadline; hence their case ascertainment is now higher than reported here.

The corresponding data for Scotland is shown below. NHS Quality Improvement Scotland published revised national lung cancer standards in March 2008: the Scottish standard for rate of confirmation of histological/cytological diagnosis is set at a minimum of 75 per cent, and for discussion by MDT at 100 per cent.

Table 8.2 The proportions of all patients with lung cancer having a histological diagnosis and the proportions being discussed at MDT for Scotland.

Code	Number of cases	% of expected	Received a histological diagnosis (%)	Received a clinical diagnosis (%)	Mode of Diagnosis missing	Discussed at MDT	Not discussed at MDT	MDT discussion not recorded
SCAN	1089	96.4	70.2	29.8	0.0	86.9	12.4	0.7
Borders	80	93.0	86.3	13.8	0.0	100.0	0.0	0.0
D & G	95	77.2	82.1	17.8	0.0	96.8	2.1	1.1
Fife	314	120.8	71.0	29.0	0.0	83.8	14.0	2.2
Lothian	600	90.8	65.8	34.2	0.0	85.2	14.8	0.0
WoSCAN*	1594	82.2	78.6	21.0	0.4	90.3	4.1	5.5
Ayrshire & Arran	277	89.4	78.3	21.7	0.0	99.3	0.7	0.0
Clyde	284	84.0	75.4	22.9	1.8	79.9	6.7	13.4
Forth Valley	176	76.5	86.9	13.1	0.0	83.0	13.1	4.0
Greater Glasgow	857	80.8	78.1	21.7	0.2	92.4	2.6	5.0
*excludes data from hospitals in Lanarkshire Health Board area.								
NoSCAN	841	90.2	78.1	21.6	0.3	92.1	7.6	0.3
Grampian	343	88.7	74.9	25.1	0.0	83.7	16.3	0.0
Highland	171	108.0	85.4	14.6	0.0	98.2	1.8	0.0
Tayside	309	85.1	78.7	21.3	0.0	100.0	0.0	0.0
Western Isles	15	93.8	66.7	33.3	0.0	66.7	33.3	0.0
Orkney	0	0.0	-	-	-	-	-	-
Shetland	3	100.0	0.0	0.0	100.0	0.0	0.0	100.0

Figures for histological/cytological diagnosis in table 8.2 exclude patients who only received histological confirmation of diagnosis after surgery.

8.3 Casemix Adjustment

Raw measures of the quality of care provided by organisations such as histological confirmation rate and surgical resection rate do not take account of the different casemix between organisations. For example, an organisation with a population of patients that is on average more elderly or has a more advanced stage of disease, might be expected to have lower than average resection rates and histological confirmation rates. In order to try to correct for these differences and to allow more meaningful comparisons between organisations, the date has been reanalysed using a process of casemix adjustment.

Unadjusted and casemix adjusted logistic regression models were fitted to the data to compare treatment rates between trusts and networks. The unadjusted models compare the odds of a treatment or outcome occurring in one trust or network compared to a baseline trust or network. The trusts and networks chosen to represent the baselines were generally chosen based on size, with the larger trusts and networks being used for this role. Odds ratios cannot be calculated when treatment rates are either 0 or 100 per cent, therefore these cells have been left blank. An odds ratio greater than one indicates that the odds of treatment or outcome occurring was higher in the comparator rather than the baseline trust, and vice versa. Any two odds ratios can be compared from these tables in a similar manner, with a higher odds ratio indicating a greater treatment or outcome rate. Significant differences at the 5 per cent level between two trusts can be identified where their 95 per cent confidence intervals do not overlap. It is important to note that odds ratios, unlike risk ratios, cannot be interpreted as percentages, e.g. an odds ratio of 0.5 does not indicate one trust has a 50 per cent lower treatment rate than another.

The NLCA will play a key future role in future national initiatives relating to lung cancer. For example, data from the NLCA will be used in future rounds of Cancer Peer Review, as well as helping to inform the development of standards in the forthcoming revision of NICE guidelines on diagnosis and treatment of lung cancer.

Some of the differences in treatment rates between trusts or networks can be accounted for by differences in casemix, therefore adjusted odds ratios are also reported. Adjustments were made for sex, age, stage, performance status and deprivation. The adjusted values enable trusts or networks to be directly compared to one another as if they had treated the same casemix of patients in terms of the adjusted variables. Odds ratios and confidence intervals can be interpreted as for the unadjusted models. It is important to mention that not all possible factors that may affect treatment rates could be adjusted for in these models due to lack of data (e.g. co-morbidities). Therefore even in the adjusted results some of the differences between trusts may still be due to differences in casemix, rather than solely due to differences in trusts performances.

For both the adjusted and unadjusted models, odds ratios reported for trusts cannot be directly compared to those reported for each network, as different baselines, and therefore difference treatment rates, were used for the models.

Tables 8.3a and 8.3b give figures (by network and by trust) for unadjusted and casemix adjusted histological confirmation rates in NSCLC (i.e all cases excluding confirmed SCLC or mesothelioma). Organisations used to establish a baseline are highlighted in blue. The results show an overall histological confirmation rate in NSCLC of 63.1 per cent, but there is a wide variation across organisations from less than 20 per cent to more than 80 per cent. These differences are not entirely explained by casemix.

Note that Scottish data has not been included in casemix adjusted results this year.

Table 8.3a Non-Small Cell Lung Cancers – Proportion receiving a histological diagnosis by Network

				Unadjusted				Adjusted		
Code	Total N	% received histology diagnosis		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01	439	76.99		1.95	1.53	2.48		2.45	1.88	3.18
N02	1021	40.35		0.39	0.34	0.46		0.37	0.31	0.44
N03	710	57.32		0.78	0.66	0.93		0.89	0.74	1.08
N06	1409	54.79		0.70	0.61	0.81		0.94	0.81	1.10
N07	313	66.77		1.17	0.91	1.50		0.79	0.60	1.04
N08	960	58.54		0.82	0.70	0.96		0.60	0.50	0.71
N11	763	78.64		2.14	1.76	2.61		2.00	1.62	2.46
N12	337	73.00		1.57	1.21	2.03		1.59	1.20	2.09
N13	543	62.62		0.97	0.80	1.19		0.48	0.39	0.60
N14	343	76.97		1.94	1.49	2.54		1.61	1.21	2.15
N15	651	66.97		1.18	0.98	1.42		1.01	0.82	1.23
N20	477	39.62		0.38	0.31	0.47		0.43	0.34	0.55
N21	511	48.53		0.55	0.45	0.67		0.48	0.39	0.59
N22	365	88.49		4.47	3.20	6.25		3.48	2.44	4.97
N23	629	59.94		0.87	0.72	1.05		0.88	0.72	1.08
N24	517	68.67		1.27	1.04	1.57		1.38	1.11	1.73
N25	311	63.34		1.00	0.78	1.29		1.49	1.14	1.94
N26	830	63.37		1.01	0.85	1.19		1.15	0.96	1.39
N27	415	60.96		0.91	0.73	1.13		0.76	0.60	0.97
N28	446	68.61		1.27	1.02	1.58		1.28	1.01	1.63
N29	248	80.24		2.36	1.70	3.27		1.73	1.22	2.45
N30	741	72.60		1.54	1.28	1.86		1.28	1.05	1.57
N31	335	71.34		1.45	1.12	1.87		1.48	1.12	1.96
N32	218	82.11		2.67	1.86	3.82		2.88	1.97	4.20
N33	400	52.50		0.64	0.52	0.80		0.63	0.50	0.80
N34	461	42.30		0.43	0.35	0.52		0.60	0.48	0.76
N35	175	85.71		3.49	2.26	5.38		3.19	2.02	5.04
N36	1920	63.23		1.00				1.00		
N37	624	64.10		1.04	0.86	1.25		0.93	0.76	1.15
N38	515	76.50		1.89	1.51	2.37		1.66	1.30	2.11
SEW	804	57.46		0.79	0.66	0.93		0.63	0.52	0.76
SWW	505	70.69		1.40	1.13	1.74		1.01	0.80	1.27
NW	366	75.68		1.81	1.40	2.34		2.60	1.96	3.45
Total	19302	63.07								

Table 8.3b Non-Small Cell Lung Cancers – Proportion receiving a histological diagnosis by Trust

				Unadjusted				Adjusted		
Code	Total N	% received histology diagnosis		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01										
RTX	114	89.47		2.86	1.52	5.37		2.15	1.11	4.15
RXL	158	84.18		1.79	1.11	2.87		1.71	1.02	2.85
RXN	66	77.27		1.14	0.62	2.10		0.53	0.27	1.03
RXR	101	51.49		0.36	0.23	0.55		0.25	0.15	0.41
N02										
RBV	1	0.00								
RJN	64	70.31		0.80	0.45	1.41		0.39	0.20	0.75
RM2	49	57.14		0.45	0.25	0.82		0.22	0.12	0.43
RM3	188	18.62		0.08	0.05	0.12		0.05	0.03	0.07
RM4	6	66.67		0.67	0.12	3.71		0.43	0.06	3.07
RMC	146	63.70		0.59	0.40	0.87		0.30	0.19	0.46
RMP	103	47.57		0.30	0.20	0.47		0.14	0.09	0.22
RRF	97	40.21		0.23	0.14	0.36		0.06	0.04	0.10
RW3	95	47.37		0.30	0.19	0.47		0.25	0.15	0.42
RW6	268	26.49		0.12	0.09	0.17		0.05	0.03	0.07
RWJ	4	75.00		1.01	0.10	9.78		0.19	0.02	1.95
N03										
RBL	115	72.17		0.87	0.55	1.37		0.56	0.34	0.92
RBN	152	48.03		0.31	0.21	0.45		0.18	0.12	0.27
RBQ	98	83.67		1.72	0.97	3.05		0.94	0.51	1.72
REM	38	68.42		0.73	0.36	1.49		0.35	0.16	0.76
RJR	101	55.45		0.42	0.27	0.65		0.26	0.16	0.43
RQ6	37	75.68		1.05	0.48	2.28		0.77	0.33	1.76
RVY	20	15.00		0.06	0.02	0.21		0.04	0.01	0.14
RWW	149	37.58		0.20	0.14	0.30		0.11	0.07	0.16
N06										
NT2	1	100.00								
RAE	195	60.51		0.51	0.36	0.73		0.17	0.12	0.26
RCB	138	69.57		0.77	0.51	1.16		0.25	0.16	0.40
RCD	60	71.67		0.85	0.47	1.54		0.29	0.15	0.57
RCF	74	60.81		0.52	0.31	0.87		0.22	0.12	0.40
RR8	493	74.85		1.00				1.00		
RWY	90	65.56		0.64	0.40	1.03		0.49	0.30	0.82
RXF	358	11.45		0.04	0.03	0.06		0.04	0.02	0.05
N07										
RJL	58	72.41		0.88	0.48	1.62		0.47	0.24	0.92
RWA	255	65.49		0.64	0.46	0.89		0.17	0.12	0.25

				Unadjusted				Adjusted		
Code	Total N	% received histology diagnosis		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N08										
RFF	47	70.21		0.79	0.41	1.53		0.67	0.34	1.33
RFS	154	57.79		0.46	0.31	0.67		0.14	0.09	0.21
RHQ	336	69.94		0.78	0.57	1.07		0.24	0.17	0.34
RP5	299	63.88		0.59	0.44	0.81		0.25	0.18	0.36
RFR	124	11.29		0.04	0.02	0.08		0.01	0.00	0.02
N11										
RBK	128	75.00		1.01	0.64	1.58		0.45	0.27	0.75
RR1	218	83.03		1.64	1.09	2.47		0.78	0.50	1.21
RRJ	1	100.00								
RRK	186	86.02		2.07	1.30	3.28		0.67	0.40	1.10
RXK	230	70.43		0.80	0.56	1.13		0.48	0.33	0.71
N12										
RJC	5	60.00		0.50	0.08	3.05		0.25	0.04	1.62
RKB	221	70.14		0.79	0.55	1.12		0.42	0.29	0.61
RLT	99	76.77		1.11	0.67	1.85		0.45	0.26	0.78
RWP	12	100.00								
N13										
RK5	162	78.40		1.22	0.80	1.87		0.31	0.19	0.50
RX1	381	55.91		0.43	0.32	0.57		0.09	0.06	0.12
N14										
RJF	112	65.18		0.63	0.41	0.98		0.23	0.14	0.37
RTG	231	82.68		1.60	1.08	2.39		0.69	0.45	1.07
N15										
RNQ	153	41.83		0.24	0.17	0.35		0.10	0.07	0.15
RNS	121	71.07		0.83	0.53	1.29		0.42	0.26	0.68
RWE	377	75.86		1.06	0.77	1.44		0.41	0.29	0.58
N20										
RC9	135	75.56		1.04	0.67	1.62		0.60	0.37	0.97
RWH	160	41.88		0.24	0.17	0.35		0.09	0.06	0.14
RWG	182	10.99		0.04	0.02	0.07		0.04	0.02	0.06
N21										
RAS	82	50.00		0.34	0.21	0.54		0.19	0.12	0.32
RFW	70	64.29		0.60	0.36	1.03		0.25	0.14	0.45
RYJ	195	20.00		0.08	0.06	0.13		0.02	0.01	0.03
RQM	67	89.55		2.88	1.28	6.47		2.11	0.85	5.21
RT3	4	100.00								
RV8	54	64.81		0.62	0.34	1.12		0.55	0.29	1.02
RC3	39	61.54		0.54	0.27	1.06		0.25	0.12	0.53
RFU	0	-								
N22										

				Unadjusted				Adjusted		
Code	Total N	% received histology diagnosis		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RAL	82	80.49		1.39	0.77	2.48		0.66	0.34	1.25
RAP	52	84.62		1.85	0.85	4.03		0.89	0.39	2.04
RKE	59	77.97		1.19	0.62	2.27		0.53	0.26	1.09
RQW	12	100.00								
RRV	124	99.19		41.33	5.72	298.89		10.53	1.43	77.34
RVL	36	88.89		2.69	0.93	7.75		0.79	0.26	2.44
N23										
RF4	221	71.04		0.82	0.58	1.18		0.52	0.35	0.77
RGC	100	80.00		1.34	0.79	2.28		0.60	0.34	1.06
RNH	105	50.48		0.34	0.22	0.53		0.12	0.07	0.19
RNJ	150	45.33		0.28	0.19	0.41		0.16	0.10	0.24
RQX	53	35.85		0.19	0.10	0.34		0.07	0.03	0.13
N24										
RG2	140	69.29		0.76	0.50	1.15		0.33	0.21	0.53
RG3	120	71.67		0.85	0.54	1.33		0.31	0.19	0.50
RGZ	70	38.57		0.21	0.13	0.36		0.23	0.13	0.39
RJ1	47	91.49		3.61	1.27	10.27		4.44	1.53	12.83
RJ2	49	71.43		0.84	0.44	1.61		0.66	0.33	1.33
RJZ	91	73.63		0.94	0.56	1.56		0.32	0.18	0.56
N25										
5LG	2	100.00								
RPY	0	-								
RJ6	53	22.64		0.10	0.05	0.19		0.06	0.03	0.12
RJ7	59	88.14		2.50	1.11	5.64		2.22	0.96	5.11
RVR	120	60.83		0.52	0.34	0.79		0.50	0.32	0.78
RAX	77	75.32		1.03	0.59	1.79		0.73	0.40	1.32
N26										
RA9	142	73.94		0.95	0.62	1.46		0.35	0.22	0.57
RBZ	39	69.23		0.76	0.37	1.54		0.26	0.12	0.58
REF	268	54.85		0.41	0.30	0.56		0.32	0.22	0.45
RH8	144	69.44		0.76	0.51	1.15		0.42	0.27	0.66
RK9	237	62.03		0.55	0.39	0.76		0.46	0.31	0.67
N27										
RBD	90	57.78		0.46	0.29	0.73		0.27	0.16	0.45
RD3	135	68.89		0.74	0.49	1.13		0.31	0.19	0.49
RDZ	190	56.84		0.44	0.31	0.63		0.15	0.10	0.22
N28										
RA3	80	86.25		2.11	1.08	4.11		0.95	0.46	1.95
RA4	60	81.67		1.50	0.75	2.97		0.85	0.41	1.75
RA7	84	75.00		1.01	0.59	1.72		0.64	0.36	1.13
RBA	124	66.94		0.68	0.44	1.04		0.39	0.24	0.63

				Unadjusted				Adjusted		
Code	Total N	% received histology diagnosis		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RD1	50	48.00		0.31	0.17	0.56		0.20	0.11	0.38
RVJ	48	37.50		0.20	0.11	0.37		0.11	0.06	0.22
N29										
RLQ	88	71.59		0.85	0.51	1.40		0.24	0.14	0.41
RTE	160	85.00		1.90	1.18	3.08		0.80	0.47	1.34
N30										
RD7	66	95.45		7.06	2.18	22.87		4.33	1.29	14.50
RD8	70	80.00		1.34	0.72	2.50		0.72	0.38	1.40
RHW	151	72.19		0.87	0.58	1.31		0.30	0.19	0.48
RN3	130	55.38		0.42	0.28	0.62		0.20	0.13	0.32
RP1	1	100.00								
RTH	216	64.35		0.61	0.43	0.86		0.22	0.15	0.33
RXQ	107	91.59		3.66	1.79	7.46		1.52	0.71	3.24
N31										
RHM	7	14.29		0.06	0.01	0.47		0.06	0.01	0.51
RN1	93	73.12		0.91	0.55	1.51		1.08	0.64	1.81
RN5	47	53.19		0.38	0.21	0.70		0.17	0.09	0.33
RNZ	63	63.49		0.58	0.34	1.01		0.18	0.10	0.32
RPR	95	83.16		1.66	0.93	2.95		0.60	0.32	1.11
RR2	30	86.67		2.18	0.75	6.38		0.41	0.13	1.30
N32										
RA2	48	93.75		5.04	1.54	16.51		2.81	0.83	9.54
RTK	39	94.87		6.22	1.48	26.17		4.49	1.04	19.40
RDU	14	100.00								
RTP	117	70.94		0.82	0.52	1.28		0.54	0.33	0.89
N33										
RPL	99	63.64		0.59	0.37	0.93		0.26	0.16	0.43
RXC	174	72.41		0.88	0.60	1.30		0.41	0.26	0.64
RXH	127	16.54		0.07	0.04	0.11		0.05	0.03	0.08
N34										
RN7	72	87.50		2.35	1.14	4.87		0.72	0.33	1.55
RPA	16	75.00		1.01	0.32	3.18		0.76	0.22	2.59
RWF	158	11.39		0.04	0.03	0.07		0.04	0.02	0.07
RVV	215	47.44		0.30	0.22	0.42		0.26	0.18	0.37
N35										
RJD	119	88.24		2.52	1.39	4.56		1.40	0.74	2.66
RJE	3	0.00								
RL4	52	86.54		2.16	0.95	4.91		0.63	0.27	1.50
RXW	1	0.00								
N36										
RE9	123	64.23		0.60	0.40	0.92		0.45	0.28	0.71

				Unadjusted				Adjusted		
Code	Total N	% received histology diagnosis		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RLN	210	74.76		1.00	0.69	1.44		0.43	0.28	0.65
RNL	197	66.50		0.67	0.47	0.96		0.34	0.23	0.50
RR7	90	38.89		0.21	0.13	0.34		0.08	0.05	0.14
RTD	185	79.46		1.30	0.86	1.96		0.52	0.33	0.82
RTF	283	46.64		0.29	0.22	0.40		0.18	0.13	0.25
RTR	244	75.00		1.01	0.71	1.44		0.98	0.67	1.43
RVW	264	55.30		0.42	0.30	0.57		0.14	0.10	0.20
RXP	324	62.96		0.57	0.42	0.77		0.20	0.14	0.28
N37										
RC1	74	64.86		0.62	0.37	1.04		0.15	0.08	0.27
RCX	59	98.31		19.49	2.67	142.19		8.88	1.20	65.96
RGM	5	60.00		0.50	0.08	3.05		0.11	0.02	0.72
RGN	26	38.46		0.21	0.09	0.47		0.07	0.03	0.18
RGP	54	88.89		2.69	1.12	6.43		1.42	0.57	3.54
RGQ	9	100.00								
RGR	103	55.34		0.42	0.27	0.65		0.22	0.14	0.37
RGT	67	10.45		0.04	0.02	0.09		0.01	0.00	0.01
RM1	179	79.89		1.33	0.88	2.03		1.22	0.77	1.92
RQQ	48	35.42		0.18	0.10	0.34		0.04	0.02	0.07
N38										
RAJ	172	83.72		1.73	1.10	2.72		0.91	0.56	1.49
RDD	127	51.97		0.36	0.24	0.54		0.13	0.08	0.20
RDE	147	80.27		1.37	0.87	2.15		0.39	0.24	0.65
RQ8	69	95.65		7.39	2.28	23.93		5.34	1.63	17.50
SEW										
RVM	252	60.32		0.51	0.37	0.71		0.18	0.12	0.25
RRS	109	55.96		0.43	0.28	0.66		0.16	0.10	0.26
RVE	102	67.65		0.70	0.44	1.12		0.35	0.21	0.58
RVF	341	52.79		0.38	0.28	0.50		0.14	0.10	0.19
SWW										
RVA	103	64.08		0.60	0.38	0.94		0.20	0.12	0.33
RKU	19	94.74		6.05	0.80	45.78		4.07	0.51	32.34
RR6	87	65.52		0.64	0.39	1.04		0.21	0.12	0.36
RVC	158	66.46		0.67	0.45	0.98		0.19	0.13	0.30
RVD	138	80.43		1.38	0.87	2.20		0.49	0.29	0.80
NW										
RT7	102	85.29		1.95	1.09	3.50		1.39	0.75	2.58
RT8	127	76.38		1.09	0.69	1.72		1.67	1.01	2.78
RT9	137	67.88		0.71	0.47	1.07		0.25	0.16	0.40
Totals	19302	63.07								

8.4 Treatment Of Lung Cancer Patients

In general, the treatment choices for lung cancer patients include surgery, chemotherapy, radiotherapy palliative care and active monitoring, but these individual treatment modalities are often combined. The proportion of patients undergoing potentially curative surgery is lower in the UK than in other westernised countries and improving the resection rate has been seen as a key goal in improving survival. Unfortunately, many patients have advanced disease at presentation or have co-morbidities which mean surgery is not feasible, but despite this some units are able to report resection rates of 15-20 per cent. Further useful markers of the quality of care are the proportion of patients undergoing any active anti-cancer treatment (i.e surgery, chemotherapy or radiotherapy) and the proportion of small-cell lung cancer patients undergoing chemotherapy. The audit results for these measures for all cases of lung cancer and mesothelioma are given in the table below with the same colour-coding as above (met target=green, did not meet target=red).

Please note that the National Lung Cancer Audit is able to collect data on multiple treatments and so the proportion receiving "any" active treatment will be less than the sum of surgery, chemotherapy and radiotherapy treatment rates.

For patients with lung cancer and mesothelioma in England and Wales, 51.3 per cent have are recorded as having any anti-cancer treatment (62.3 per cent in Scotland) and 9.9 per cent have surgical resection (9.7 per cent in Scotland). For patients with SCLC, 61.9 per cent have treatment with chemotherapy. Once again, these averages hide wide variation across trusts and networks.

Table 8.4 Proportion of patients receiving active treatment colour coded to indicate whether LAP targets were attained.

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
N01	**519**	**57.6**	**3.1**	**13.9**	**67**	**73.1**
RTX	141	74.5	2.8	15.6	22	77.3
RXL	173	44.5	3.5	4.6	12	58.3
RXN	86	51.2	2.3	11.6	19	78.9
RXR	119	61.3	3.4	26.9	14	71.4
N02	**1,145**	**40.7**	**3.9**	**10.7**	**91**	**62.6**
RBV*	1	0.0	0.0	0.0	0	-
RJN	79	64.6	0.0	24.1	10	70.0
RM2	52	36.5	0.0	1.9	3	100.0
RM3	196	19.4	0.5	1.0	2	0.0
RM4	6	16.7	0.0	0.0	22	77.3
RMC	179	56.4	10.6	29.1	15	80.0
RMP	122	63.9	13.1	20.5	16	56.3
RRF	115	36.5	2.6	0.9	15	40.0
RW3	110	43.6	5.5	3.6	6	33.3
RW6	279	31.2	0.0	6.8	2	50.0
RWJ	6	16.7	0.0	0.0	0	-
RBT	0	0.0	0.0	0.0	0	0.0

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
N03	**823**	**52.4**	**4.9**	**10.1**	**86**	**61.6**
RBL	135	48.9	0.7	0.7	15	73.3
RBN	161	49.1	9.3	34.8	6	50.0
RBQ	115	82.6	13.0	3.5	15	93.3
REM	43	46.5	0.0	11.6	5	40.0
RJR	128	35.2	0.0	0.0	21	42.9
RQ6	50	78.0	4.0	10.0	12	75.0
RVY	20	45.0	5.0	45.0	0	-
RWW	171	45.6	3.5	1.8	12	41.7
REN*	0	0.0	0.0	0.0	0	0.0
N06	**1,604**	**50.7**	**11.5**	**19.2**	**113**	**69.9**
NT2**	1	100.0	0.0	0.0	0	-
RAE	229	50.7	5.2	42.8	26	69.2
RCB	176	57.4	18.2	33.5	24	62.5
RCD	81	50.6	8.6	11.1	19	73.7
RCF	95	58.9	4.2	23.2	17	88.2
RR8	519	56.8	15.4	10.6	0	-
RWY	109	45.0	5.5	12.8	17	70.6
RXF	394	39.3	11.2	12.9	10	50.0
N07	**385**	**58.7**	**16.6**	**4.7**	**54**	**64.8**
RJL	68	60.3	2.9	1.5	8	50.0
RWA	317	58.4	19.6	5.4	46	67.4
RCC	0	0.0	0.0	0.0	0	0.0
N08	**1,094**	**51.7**	**11.2**	**19.0**	**89**	**64.0**
RFF	48	8.3	6.3	0.0	0	-
RFS	172	46.5	12.2	34.9	15	53.3
RHQ	386	58.3	14.0	2.6	36	77.8
RP5	360	50.3	9.2	26.9	38	55.3
RFR	128	59.4	9.4	32.0	0	-
N11	**920**	**56.2**	**15.2**	**26.3**	**124**	**73.4**
RBK	154	59.7	12.3	16.9	21	81.0
RR1	264	61.0	22.0	18.9	37	83.8
RRJ$	1	0.0	0.0	0.0	0	-
RRK	230	63.0	13.5	19.1	35	77.1
RXK	271	43.9	11.8	45.0	31	51.6

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
N12	**402**	**55.2**	**10.0**	**18.4**	**41**	**61.0**
RJC	9	66.7	0.0	0.0	3	66.7
RKB	258	51.2	7.4	24.4	21	47.6
RLT	121	57.9	5.8	9.1	17	76.5
RWP	14	100.0	100.0	0.0	0	-
N13	**640**	**68.1**	**19.7**	**8.1**	**67**	**70.1**
RK5	200	60.5	10.5	5.0	26	73.1
RX1	440	71.6	23.9	9.5	41	68.3
RWD	0	0.0	0.0	0.0	0	0.0
N14	**404**	**58.4**	**17.6**	**19.6**	**34**	**85.3**
RJF	136	62.5	18.4	22.1	16	87.5
RTG	268	56.3	17.2	18.3	18	83.3
N15	**772**	**68.1**	**16.8**	**15.4**	**85**	**72.9**
RNQ	174	58.6	17.2	12.1	5	20.0
RNS	143	72.0	14.7	21.7	18	72.2
RWE	455	70.5	17.4	14.7	62	77.4
N20	**513**	**19.5**	**12.1**	**43.3**	**11**	**18.2**
RC9	146	21.9	15.8	48.6	2	0.0
RWH	175	16.0	6.9	10.3	6	33.3
RWG	192	20.8	14.1	69.3	3	0.0
N21	**558**	**28.9**	**9.1**	**30.1**	**32**	**25.0**
RAS	105	7.6	7.6	90.5	13	0.0
RFW	83	53.0	3.6	22.9	11	63.6
RYJ	195	38.5	13.9	12.8	0	-
RQM	67	7.5	7.5	0.0	0	-
RT3*	5	100.0	100.0	0.0	1	0.0
RV8	59	10.2	3.4	13.6	4	0.0
RC3	43	41.9	2.3	46.5	3	33.3
RFU	1	0.0	0.0	100.0	0	-
N22	**425**	**69.4**	**30.1**	**19.3**	**45**	**82.2**
RAL	95	51.6	16.8	24.2	9	77.8
RAP	62	67.7	19.4	30.6	9	66.7
RKE	75	64.0	10.7	26.7	14	100.0
RQW	12	100.0	100.0	0.0	0	-
RRV	142	83.1	42.3	13.4	12	75.0
RVL	39	66.7	51.3	2.6	1	100.0

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
N23	**740**	**51.2**	**15.1**	**14.9**	**69**	**79.7**
RF4	276	69.9	20.7	9.4	36	75.0
RGC	121	54.5	13.2	29.8	15	73.3
RNH	118	39.0	13.6	12.7	7	85.7
RNJ	168	33.9	11.9	7.7	7	100.0
RQX	57	29.8	5.3	35.1	4	100.0
N24	**611**	**39.3**	**3.9**	**22.3**	**70**	**42.9**
RG2	165	41.2	3.0	36.4	23	56.5
RG3	155	60.0	3.2	31.0	21	57.1
RGZ	73	1.4	0.0	4.1	3	0.0
RJ1	55	80.0	9.1	1.8	6	16.7
RJ2	58	39.7	0.0	27.6	5	60.0
RJZ	105	10.5	8.6	7.6	12	8.3
N25	**377**	**40.6**	**8.2**	**13.5**	**41**	**53.7**
5LG	3	66.7	0.0	0.0	1	100.0
RPY	1	100.0	100.0	0.0	4	75.0
RJ6	58	53.4	0.0	15.5	11	54.5
RJ7	76	57.9	27.6	0.0	0	-
RVR	142	30.3	3.5	10.6	14	42.9
RAX	97	33.0	4.1	27.8	11	54.5
N26	**997**	**60.5**	**9.7**	**30.7**	**91**	**76.9**
RA9	173	63.0	8.7	40.5	19	89.5
RBZ	51	56.9	17.6	27.5	6	50.0
REF	319	64.3	11.3	23.2	28	60.7
RH8	171	69.0	17.5	44.4	16	93.8
RK9	283	50.2	2.5	25.4	22	81.8
N27	**493**	**52.5**	**10.5**	**14.4**	**45**	**77.8**
RBD	121	57.9	14.9	24.8	19	63.2
RD3	160	47.5	9.4	23.8	13	100.0
RDZ	212	53.3	9.0	1.4	13	76.9
N28	**518**	**54.4**	**4.8**	**23.7**	**49**	**65.3**
RA3	99	59.6	5.1	32.3	14	64.3
RA4	67	61.2	6.0	16.4	4	75.0
RA7	95	56.8	10.5	7.4	8	87.5
RBA	151	58.3	1.3	25.2	19	63.2
RD1	55	29.1	5.5	38.2	3	33.3
RVJ	51	47.1	2.0	27.5	1	0.0

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
N29	**315**	**68.6**	**14.3**	**7.0**	**45**	**66.7**
RLQ	112	56.3	8.9	18.8	18	61.1
RTE	203	75.4	17.2	0.5	27	70.4
RWP	0	0.0	0.0	0.0	0	-
N30	**882**	**49.7**	**13.0**	**15.6**	**92**	**48.9**
RD7	74	60.8	35.1	14.9	1	0.0
RD8	83	54.2	18.1	6.0	10	50.0
RHW	195	58.5	11.3	17.4	32	40.6
RN3	155	34.8	7.7	31.6	16	18.8
RP1	1	100.0	100.0	0.0	0	-
RTH	244	34.8	4.1	11.1	19	68.4
RXQ	130	72.3	22.3	9.2	14	78.6
N31	**415**	**48.2**	**6.0**	**25.1**	**47**	**72.3**
RHM	8	0.0	0.0	0.0	0	-
RN1	113	51.3	2.7	9.7	11	90.9
RN5	55	47.3	10.9	34.5	3	100.0
RNZ	86	33.7	0.0	51.2	13	84.6
RPR	121	62.8	11.6	19.8	19	47.4
RR2	32	34.4	6.3	18.8	1	100.0
RHU	0	0.0	0.0	0.0	0	-
N32	**242**	**59.9**	**18.2**	**19.4**	**5**	**40.0**
RA2	54	57.4	13.0	25.9	3	66.7
RTK	43	65.1	20.9	20.9	2	0.0
RDU	18	94.4	61.1	5.6	0	-
RTP	127	54.3	13.4	18.1	0	-
N33	**461**	**43.8**	**4.6**	**36.7**	**38**	**52.6**
RPL	108	23.1	5.6	44.4	3	33.3
RXC	221	50.2	6.8	48.0	31	54.8
RXH	132	50.0	0.0	11.4	4	50.0
N34	**509**	**66.6**	**2.4**	**13.9**	**18**	**66.7**
RN7	87	79.3	12.6	4.6	7	85.7
RPA	20	75.0	0.0	0.0	4	75.0
RWF	171	62.0	0.0	21.1	1	0.0
RVV	231	64.5	0.4	13.4	6	50.0

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
N35	**234**	**49.6**	**14.1**	**15.0**	**50**	**64.0**
RJD	148	33.8	7.4	10.8	22	63.6
RJE	23	82.6	0.0	0.0	20	75.0
RL4	62	75.8	35.5	30.6	8	37.5
RXW	1	0.0	0.0	0.0	0	-
N36	**2,291**	**49.2**	**7.3**	**7.7**	**253**	**62.1**
RE9	148	57.4	5.4	29.7	17	64.7
RLN	269	51.3	8.2	1.9	35	80.0
RNL	215	35.3	5.1	1.9	13	23.1
RR7	106	56.6	4.7	34.9	12	83.3
RTD	219	60.7	5.9	19.6	24	70.8
RTF	320	45.9	8.8	3.8	24	54.2
RTR	302	39.7	7.3	0.0	37	59.5
RVW	320	53.8	7.8	9.1	35	54.3
RXP	392	50.0	8.4	0.8	56	60.7
N37	**704**	**52.0**	**6.3**	**14.2**	**56**	**60.7**
RC1	81	74.1	7.4	35.8	6	50.0
RCX	67	53.7	7.5	44.8	8	87.5
RGM*	5	60.0	40.0	0.0		
RGN	30	40.0	3.3	16.7	4	50.0
RGP	64	68.8	7.8	1.6	6	66.7
RGQ	10	10.0	10.0	10.0	0	-
RGR	123	53.7	3.3	10.6	12	58.3
RGT*	68	8.8	8.8	0.0	1	0.0
RM1	206	58.3	2.4	8.3	17	64.7
RQQ	50	36.0	18.0	8.0	2	0.0
N38	**653**	**55.1**	**10.0**	**27.1**	**84**	**54.8**
RAJ	205	46.8	6.8	49.8	20	50.0
RDD	149	47.0	12.1	17.4	13	61.5
RDE	201	76.6	14.4	20.9	32	59.4
RQ8	98	40.8	4.1	7.1	19	47.4
SEW	**943**	**46.3**	**3.3**	**10.9**	**115**	**41.7**
RVM	303	49.8	7.6	13.5	36	72.2
RRS	119	45.4	0.0	12.6	7	85.7
RVE	139	46.0	5.8	24.5	32	25.0
RVF	382	44.0	0.0	3.4	40	20.0

Code	Number of cases	Any active treatment %	Surgery %	Palliative care (%)	Number of small cell cases	Small cell received chemotherapy (%)
SWW	**614**	**42.7**	**7.8**	**17.6**	**84**	**38.1**
RVA	132	21.2	7.6	43.9	22	18.2
RKU	21	61.9	28.6	33.3	2	100.0
RR6	99	32.3	6.1	20.2	7	0.0
RVC	193	53.4	10.4	7.8	28	57.1
RVD	169	50.9	3.6	4.7	25	40.0
NW	**425**	**44.9**	**5.4**	**20.7**	**43**	**37.2**
RT7	126	49.2	9.5	14.3	19	31.6
RT8	139	38.8	0.7	36.7	7	57.1
RT9	160	46.9	6.3	11.9	17	35.3
Total	**22628**	**51.3**	**9.9**	**17.6**	**2,234**	**61.9**

Notes: Colour-coding: =met the quality standards reported in previous annual report; =did not meet quality standards

* Tertiary treatment centre. Results are based on the trust at which the patient is first seen. Some tertiary treatment trusts see few (or no) patients at presentation and so appear to have poor data completeness which may be misleading. It is important to realise that for these trusts the usual targets do not apply (hence shown in blue) – instead the audit relies upon these trusts to upload important treatment data on the patients they see.

** Private Hospital

Trust code RRJ has been entered in error. This case was first seen at RKB and diagnosed at RRJ. The uploading trust has corrected these data in the LUCADA database.

RFR self-report that there was an error in their data submission affecting the HCR rate. This has subsequently been updated in the LUCADA database.

RQX self-report that their case ascertainment is approximately 67 per cent. The NLCA is investigating this.

Several Trusts uploaded data after the June deadline; hence their case ascertainment is now higher than reported here.

Table 8.5 Proportion of patients receiving active treatment for Scotland.

Organisation	Number of cases	Any Active Treatment (%)	Surgery (%)
SCAN	1089	60.8	8.8
Borders	80	72.5	5
D & G	95	75.8	17.9
Fife	314	51	8.3
Lothian	600	62	8.2
WoSCAN*	1594	59.3	11.2
Ayrshire & Arran	277	51.6	14.1
Clyde	284	50	3.5
Forth Valley	176	51.1	11.4
Greater Glasgow	857	66.6	12.7
* excludes data from hospitals in Lanarkshire Health Board area.			
NoSCAN	841	70	8.1
Grampian	242	78.1	9
Highland	171	66.6	9.9
Tayside	309	65.1	6.5
Western Isles	15	33.3	0
Orkney	0	-	-
Shetland	3	0	0
Scotland Total	3524	62.3	9.7

As discussed earlier in this chapter, raw measures of the quality of care provided by organisations such as anti-cancer treatment rate and surgical resection rate do not take account of the different casemix between organisations. Tables 8.6a – 8.8 give unadjusted and casemix adjusted data for:

- anti-cancer treatment rates in NSCLC (i.e all cases excluding confirmed SCLC or mesothelioma) by network and by trust
- surgical resection rates in histologically-confirmed NSCLC by network and by trust
- chemotherapy rates in SCLC by network.

The data should be interpreted in line with the explanations on casemix adjustment given in earlier paragraphs. Again, baseline organisations are highlighted in blue.

The UK Lung Cancer Coalition (UKLCC) – a coalition of clinical, charity and industry partners, regularly uses data from the NLCA to support its programmes of work and lobbying of the NHS and politicians in its to drive to improve standards of care and clinical outcomes.

Table 8.6 a Non-Small Cell Lung Cancers – Proportion receiving anti-cancer treatment by Network

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01	439	53.30		1.34	1.09	1.65		1.90	1.50	2.40
N02	1,021	38.20		0.72	0.62	0.85		0.74	0.62	0.88
N03	710	50.14		1.18	0.99	1.40		1.74	1.43	2.12
N06	1,409	48.97		1.12	0.98	1.29		1.47	1.25	1.73
N07	313	58.15		1.63	1.28	2.07		1.24	0.93	1.64
N08	960	48.85		1.12	0.96	1.31		0.89	0.74	1.06
N11	763	52.95		1.32	1.11	1.56		1.24	1.02	1.51
N12	337	53.71		1.36	1.08	1.72		1.35	1.03	1.75
N13	543	67.40		2.42	1.98	2.96		1.49	1.18	1.87
N14	343	54.52		1.40	1.12	1.77		1.28	0.98	1.67
N15	651	66.51		2.33	1.93	2.80		2.62	2.12	3.25
N20	477	17.82		0.25	0.20	0.33		0.21	0.16	0.28
N21	511	28.38		0.46	0.38	0.57		0.34	0.27	0.43
N22	365	67.40		2.42	1.91	3.07		1.99	1.49	2.64
N23	629	45.95		1.00	0.83	1.19		1.06	0.87	1.31
N24	517	36.75		0.68	0.56	0.83		0.64	0.51	0.81
N25	311	38.26		0.73	0.57	0.93		0.96	0.74	1.26
N26	830	57.83		1.61	1.36	1.89		2.25	1.86	2.72
N27	415	47.71		1.07	0.86	1.32		1.07	0.83	1.38
N28	446	52.91		1.32	1.07	1.62		1.58	1.25	2.00
N29	248	64.92		2.17	1.65	2.86		1.91	1.39	2.62
N30	741	46.42		1.02	0.86	1.20		0.75	0.61	0.91
N31	335	45.67		0.99	0.78	1.24		0.96	0.73	1.25
N32	218	59.17		1.70	1.28	2.26		2.15	1.57	2.96
N33	400	42.25		0.86	0.69	1.07		0.86	0.67	1.11
N34	461	67.25		2.41	1.94	2.98		3.51	2.76	4.47
N35	175	43.43		0.90	0.66	1.23		0.74	0.52	1.05
N36	1,920	46.04		1.00				1.00		
N37	624	51.12		1.23	1.02	1.47		1.22	0.99	1.51
N38	515	52.62		1.30	1.07	1.58		1.10	0.88	1.38
SEW	804	43.78		0.91	0.77	1.08		0.75	0.62	0.91
SWW	505	40.20		0.79	0.65	0.96		0.52	0.41	0.65
NW	366	42.62		0.87	0.69	1.09		0.91	0.70	1.18
Totals	**19,302**	**48.74**								

Table 8.6b Non-Small Cell Lung Cancers – Proportion receiving anti-cancer treatment by Trust

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01										
RTX	114	70.18		1.78	1.14	2.75		1.94	1.20	3.15
RXL	158	42.41		0.56	0.39	0.80		0.68	0.45	1.03
RXN	66	40.91		0.52	0.31	0.88		0.27	0.15	0.49
RXR	101	59.41		1.10	0.71	1.71		1.32	0.81	2.13
N02										
RBV	1	0.00								
RJN	64	62.50		1.26	0.74	2.15		0.96	0.49	1.85
RM2	49	32.65		0.37	0.20	0.68		0.16	0.08	0.32
RM3	188	18.62		0.17	0.11	0.26		0.12	0.08	0.19
RM4	6	16.67		0.15	0.02	1.30		0.07	0.01	0.75
RMC	146	54.11		0.89	0.61	1.29		0.77	0.49	1.19
RMP	103	60.19		1.14	0.74	1.76		0.81	0.49	1.32
RRF	97	34.02		0.39	0.25	0.61		0.14	0.09	0.24
RW3	95	42.11		0.55	0.35	0.86		0.72	0.42	1.24
RW6	268	31.34		0.34	0.25	0.47		0.19	0.13	0.28
RWJ	4	0.00								
N03										
RBL	115	43.48		0.58	0.39	0.87		0.49	0.31	0.78
RBN	152	48.68		0.72	0.50	1.03		0.71	0.46	1.10
RBQ	98	81.63		3.35	1.95	5.76		2.85	1.58	5.12
REM	38	47.37		0.68	0.35	1.32		0.56	0.26	1.18
RJR	101	31.68		0.35	0.22	0.55		0.36	0.21	0.61
RQ6	37	78.38		2.73	1.23	6.10		3.44	1.41	8.37
RVY	20	45.00		0.62	0.25	1.52		1.07	0.38	3.06
RWW	149	42.95		0.57	0.39	0.82		0.54	0.35	0.83
N06										
NT2	1	100.00								
RAE	195	48.21		0.70	0.50	0.98		0.39	0.26	0.58
RCB	138	56.52		0.98	0.67	1.44		0.47	0.30	0.75
RCD	60	41.67		0.54	0.31	0.93		0.20	0.11	0.39
RCF	74	51.35		0.80	0.49	1.30		0.44	0.24	0.80
RR8	493	57.00						1.00		
RWY	90	40.00		0.50	0.32	0.80		0.50	0.30	0.82
RXF	358	38.27		0.47	0.35	0.62		0.47	0.35	0.64
N07										

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RJL	58	62.07		1.23	0.71	2.16		1.01	0.54	1.91
RWA	255	57.25		1.01	0.74	1.37		0.39	0.27	0.56
N08										
RFF	47	8.51		0.07	0.02	0.20		0.05	0.02	0.14
RFS	154	42.86		0.57	0.39	0.82		0.23	0.15	0.35
RHQ	336	54.76		0.91	0.69	1.21		0.38	0.27	0.53
RP5	299	47.83		0.69	0.52	0.92		0.38	0.27	0.54
RFR	124	58.06		1.04	0.70	1.56		0.55	0.34	0.88
N11										
RBK	128	55.47		0.94	0.64	1.39		0.64	0.39	1.03
RR1	218	55.96		0.96	0.70	1.32		0.54	0.37	0.78
RRJ	1	0.00								
RRK	186	60.75		1.17	0.83	1.65		0.50	0.33	0.76
RXK	230	42.61		0.56	0.41	0.77		0.42	0.29	0.60
N12										
RJC	5	80.00		3.02	0.33	27.20		2.37	0.22	25.18
RKB	221	50.23		0.76	0.55	1.05		0.48	0.33	0.68
RLT	99	54.55		0.91	0.59	1.40		0.48	0.29	0.79
RWP	12	100.00								
N13										
RK5	162	59.88		1.13	0.78	1.62		0.39	0.26	0.60
RX1	381	70.60		1.81	1.36	2.41		0.64	0.46	0.89
N14										
RJF	112	58.04		1.04	0.69	1.58		0.63	0.38	1.04
RTG	231	52.81		0.84	0.62	1.16		0.45	0.31	0.65
N15										
RNQ	153	59.48		1.11	0.77	1.60		0.74	0.49	1.13
RNS	121	68.60		1.65	1.08	2.52		1.48	0.91	2.41
RWE	377	68.70		1.66	1.25	2.19		1.11	0.79	1.55
N20										
RC9	135	21.48		0.21	0.13	0.32		0.08	0.05	0.13
RWH	160	15.63		0.14	0.09	0.22		0.05	0.03	0.08
RWG	182	17.03		0.15	0.10	0.24		0.14	0.09	0.22
N21										
RAS	82	6.10		0.05	0.02	0.12		0.02	0.01	0.06
RFW	70	47.14		0.67	0.41	1.11		0.43	0.24	0.80
RYJ	195	38.46		0.47	0.34	0.66		0.15	0.10	0.23
RQM	67	7.46		0.06	0.02	0.15		0.02	0.01	0.06

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RT3	4	100.00		-						
RV8	54	11.11		0.09	0.04	0.22		0.07	0.03	0.18
RC3	39	43.59		0.58	0.30	1.13		0.30	0.14	0.66
RFU	0									
N22										
RAL	82	47.56		0.68	0.43	1.09		0.39	0.21	0.70
RAP	52	67.31		1.55	0.85	2.85		1.27	0.61	2.63
RKE	59	54.24		0.89	0.52	1.54		0.55	0.29	1.06
RQW	12	100.00								
RRV	124	84.68		4.17	2.48	7.01		1.51	0.82	2.79
RVL	36	63.89		1.33	0.66	2.70		0.38	0.17	0.86
N23										
RF4	221	65.61		1.44	1.03	2.00		1.52	1.04	2.23
RGC	100	49.00		0.72	0.47	1.12		0.49	0.30	0.81
RNH	105	33.33		0.38	0.24	0.59		0.14	0.09	0.24
RNJ	150	31.33		0.34	0.23	0.51		0.19	0.12	0.30
RQX	53	24.53		0.25	0.13	0.47		0.10	0.04	0.20
N24										
RG2	140	38.57		0.47	0.32	0.70		0.23	0.15	0.36
RG3	120	57.50		1.02	0.68	1.53		0.66	0.41	1.08
RGZ	70	1.43		0.01	0.00	0.08		0.01	0.00	0.07
RJ1	47	76.60		2.47	1.23	4.96		2.97	1.43	6.16
RJ2	49	40.82		0.52	0.29	0.95		0.51	0.26	1.01
RJZ	91	10.99		0.09	0.05	0.18		0.02	0.01	0.05
N25										
5LG	2	50.00		0.75	0.05	12.13		0.58	0.04	9.30
RPY	0									
RJ6	53	52.83		0.84	0.48	1.49		0.65	0.35	1.18
RJ7	59	57.63		1.03	0.59	1.77		0.82	0.45	1.48
RVR	120	27.50		0.29	0.18	0.44		0.28	0.18	0.45
RAX	77	29.87		0.32	0.19	0.54		0.30	0.17	0.52
N26										
RA9	142	61.97		1.23	0.84	1.80		0.75	0.47	1.21
RBZ	39	56.41		0.98	0.51	1.88		0.47	0.22	1.03
REF	268	61.94		1.23	0.91	1.66		1.70	1.19	2.41
RH8	144	64.58		1.38	0.94	2.02		0.99	0.64	1.52
RK9	237	46.84		0.66	0.49	0.91		0.78	0.54	1.12
N27										

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RBD	90	50.00		0.75	0.48	1.18		0.79	0.47	1.33
RD3	135	41.48		0.53	0.36	0.79		0.28	0.18	0.45
RDZ	190	51.05		0.79	0.56	1.10		0.41	0.27	0.61
N28										
RA3	80	58.75		1.07	0.67	1.74		0.67	0.38	1.17
RA4	60	61.67		1.21	0.70	2.10		1.11	0.59	2.08
RA7	84	54.76		0.91	0.57	1.45		0.73	0.43	1.23
RBA	124	54.84		0.92	0.62	1.36		0.86	0.54	1.37
RD1	50	30.00		0.32	0.17	0.61		0.32	0.16	0.63
RVJ	48	47.92		0.69	0.38	1.26		0.65	0.34	1.25
N29										
RLQ	88	53.41		0.86	0.55	1.36		0.35	0.21	0.60
RTE	160	71.25		1.87	1.27	2.75		1.21	0.77	1.90
N30										
RD7	66	57.58		1.02	0.61	1.72		0.52	0.28	0.97
RD8	70	48.57		0.71	0.43	1.18		0.35	0.20	0.62
RHW	151	54.97		0.92	0.64	1.33		0.44	0.29	0.67
RN3	130	33.85		0.39	0.26	0.58		0.23	0.14	0.37
RP1	1	100.00								
RTH	216	32.41		0.36	0.26	0.51		0.12	0.08	0.18
RXQ	107	69.16		1.69	1.08	2.65		0.79	0.47	1.35
N31										
RHM	7	0.00								
RN1	93	50.54		0.77	0.49	1.20		0.90	0.56	1.44
RN5	47	40.43		0.51	0.28	0.94		0.38	0.19	0.78
RNZ	63	28.57		0.30	0.17	0.54		0.11	0.06	0.21
RPR	95	62.11		1.24	0.79	1.94		0.69	0.40	1.17
RR2	30	33.33		0.38	0.17	0.82		0.07	0.03	0.16
N32										
RA2	48	54.17		0.89	0.49	1.62		0.61	0.31	1.22
RTK	39	69.23		1.70	0.84	3.43		1.62	0.75	3.53
RDU	14	100.00								
RTP	117	52.99		0.85	0.57	1.27		0.91	0.58	1.43
N33										
RPL	99	24.24		0.24	0.15	0.40		0.11	0.06	0.18
RXC	174	46.55		0.66	0.46	0.93		0.33	0.22	0.51
RXH	127	50.39		0.77	0.52	1.13		0.76	0.50	1.16
N34										

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RN7	72	79.17		2.87	1.58	5.20		1.24	0.64	2.39
RPA	16	75.00		2.26	0.72	7.12		2.69	0.72	9.97
RWF	158	63.92		1.34	0.92	1.94		1.51	1.02	2.23
RVV	215	65.12		1.41	1.01	1.96		1.40	0.98	2.00
N35										
RJD	119	27.73		0.29	0.19	0.45		0.15	0.09	0.25
RJE	3	66.67		1.51	0.14	16.75		0.92	0.08	10.60
RL4	52	78.85		2.81	1.41	5.60		1.12	0.52	2.40
RXW	1	0.00								
N36										
RE9	123	55.28		0.93	0.63	1.39		0.99	0.62	1.57
RLN	210	43.81		0.59	0.42	0.81		0.34	0.23	0.51
RNL	197	36.55		0.43	0.31	0.61		0.22	0.15	0.33
RR7	90	53.33		0.86	0.55	1.35		0.61	0.35	1.05
RTD	185	58.92		1.08	0.77	1.52		0.58	0.39	0.87
RTF	283	43.82		0.59	0.44	0.79		0.43	0.31	0.59
RTR	244	35.66		0.42	0.30	0.57		0.35	0.24	0.50
RVW	264	51.52		0.80	0.59	1.08		0.47	0.33	0.68
RXP	324	45.68		0.63	0.48	0.84		0.28	0.20	0.39
N37										
RC1	74	74.32		2.18	1.26	3.79		1.14	0.60	2.16
RCX	59	49.15		0.73	0.42	1.25		0.32	0.17	0.59
RGM	5	60.00		1.13	0.19	6.83		0.27	0.04	1.72
RGN	26	38.46		0.47	0.21	1.06		0.23	0.09	0.59
RGP	54	66.67		1.51	0.83	2.73		1.34	0.67	2.69
RGQ	9	11.11		0.09	0.01	0.76		0.08	0.01	0.65
RGR	103	55.34		0.93	0.61	1.43		0.93	0.56	1.55
RGT	67	8.96		0.07	0.03	0.17		0.01	0.01	0.03
RM1	179	58.10		1.05	0.74	1.48		1.40	0.95	2.08
RQQ	48	37.50		0.45	0.25	0.83		0.11	0.05	0.21
N38										
RAJ	172	47.67		0.69	0.49	0.97		0.39	0.26	0.58
RDD	127	43.31		0.58	0.39	0.85		0.24	0.15	0.37
RDE	147	73.47		2.09	1.39	3.14		1.12	0.69	1.84
RQ8	69	37.68		0.46	0.27	0.77		0.32	0.18	0.55
SEW										
RVM	252	46.43		0.65	0.48	0.89		0.30	0.21	0.44
RRS	109	41.28		0.53	0.35	0.81		0.23	0.14	0.39

				Unadjusted				Adjusted		
Code	Total N	% received active treatment		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RVE	102	44.12		0.60	0.39	0.92		0.33	0.20	0.54
RVF	341	42.52		0.56	0.42	0.74		0.27	0.20	0.38
SWW										
RVA	103	20.39		0.19	0.12	0.32		0.06	0.03	0.11
RKU	19	57.89		1.04	0.41	2.62		0.67	0.22	2.09
RR6	87	26.44		0.27	0.16	0.45		0.09	0.05	0.15
RVC	158	48.73		0.72	0.50	1.03		0.30	0.20	0.46
RVD	138	51.45		0.80	0.55	1.17		0.31	0.20	0.47
NW										
RT7	102	49.02		0.73	0.47	1.11		0.45	0.28	0.73
RT8	127	36.22		0.43	0.29	0.64		0.49	0.31	0.76
RT9	137	43.80		0.59	0.40	0.86		0.23	0.15	0.35
Totals	19,302	48.74								

A major review of the thoracic oncology services being delivered by Addenbrookes and Papworth hospitals (Anglia Cancer network) is currently underway and has used data from the NLCA to underpin much of its planning.

Table 8.7a Histologically-confirmed NSCLC – Proportion receiving surgery by Network

				Unadjusted				Adjusted		
Trust code	Total N	% received surgery		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01	334	3.59		0.24	0.13	0.46		0.24	0.12	0.48
N02	318	8.18		0.58	0.36	0.94		0.33	0.19	0.58
N03	323	10.53		0.77	0.50	1.20		0.77	0.46	1.30
N06	379	15.30		1.18	0.81	1.74		0.82	0.50	1.32
N07	198	22.73		1.93	1.26	2.94		1.38	0.81	2.35
N08	489	15.95		1.24	0.87	1.78		0.93	0.59	1.45
N11	565	20.18		1.66	1.19	2.31		1.37	0.91	2.08
N12	194	15.46		1.20	0.75	1.92		0.86	0.48	1.56
N13	307	22.80		1.94	1.33	2.81		0.90	0.55	1.47
N14	185	23.78		2.05	1.33	3.14		1.87	1.07	3.28
N15	395	26.08		2.31	1.64	3.26		2.26	1.47	3.50
N20	121	34.71		3.48	2.21	5.50		2.08	1.16	3.73
N21	202	9.41		0.68	0.40	1.17		0.50	0.26	0.93
N22	301	37.21		3.88	2.74	5.51		3.41	2.08	5.60
N23	358	22.91		1.95	1.36	2.79		2.02	1.29	3.15
N24	287	6.62		0.46	0.27	0.79		0.32	0.17	0.60
N25	193	8.81		0.63	0.36	1.11		0.63	0.34	1.19
N26	491	13.24		1.00				1.00		
N27	228	13.16		0.99	0.62	1.58		1.01	0.56	1.80
N28	303	6.27		0.44	0.26	0.75		0.41	0.23	0.76
N29	186	17.20		1.36	0.86	2.16		1.44	0.82	2.54
N30	482	18.26		1.46	1.03	2.07		0.64	0.42	0.99
N31	224	7.59		0.54	0.31	0.94		0.34	0.18	0.66
N32	101	20.79		1.72	1.00	2.97		1.67	0.87	3.21
N33	193	8.29		0.59	0.33	1.05		0.30	0.15	0.60
N34	92	7.61		0.54	0.24	1.22		0.33	0.13	0.84
N35	146	19.18		1.56	0.95	2.53		1.44	0.79	2.64
N36	1,073	10.62		0.78	0.56	1.08		0.55	0.37	0.82
N37	377	8.49		0.61	0.39	0.95		0.52	0.31	0.87
N38	352	13.35		1.01	0.67	1.51		0.73	0.44	1.20
SEW	446	5.83		0.41	0.25	0.65		0.17	0.10	0.30
SWW	343	11.08		0.82	0.53	1.25		0.49	0.29	0.83
NW	266	6.39		0.45	0.26	0.78		0.29	0.15	0.55
Totals	**10,452**	**14.37**								

Table 8.7b Histologically-confirmed NSCLC – Proportion receiving surgery by Trust

				Unadjusted				Adjusted		
Trust code	Total N	% received surgery		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01										
RTX	100	2.00		0.07	0.02	0.28		0.08	0.02	0.38
RXL	131	3.82		0.13	0.05	0.34		0.15	0.06	0.43
RXN	51	3.92		0.14	0.03	0.58		0.06	0.01	0.28
RXR	52	5.77		0.20	0.06	0.68		0.26	0.07	0.95
N02										
RBV	0									
RJN	41	0.00								
RM2	10	0.00								
RM3	16	6.25		0.22	0.03	1.72		0.27	0.03	2.69
RM4	4	0.00								
RMC	92	11.96		0.45	0.23	0.90		0.68	0.30	1.53
RMP	38	18.42		0.75	0.32	1.80		0.39	0.13	1.15
RRF	38	5.26		0.19	0.04	0.79		0.08	0.02	0.40
RW3	40	12.50		0.48	0.18	1.27		0.18	0.05	0.63
RW6	37	0.00								
RWJ	2	0.00								
N03										
RBL	58	1.72		0.06	0.01	0.43		0.04	0.01	0.32
RBN	19	52.63		3.71	1.44	9.54		5.00	1.48	16.88
RBQ	80	18.75		0.77	0.41	1.45		1.40	0.67	2.93
REM	26	0.00								
RJR	56	0.00								
RQ6	28	7.14		0.26	0.06	1.11		0.32	0.06	1.71
RVY	2	0.00								
RWW	54	11.11		0.42	0.17	1.02		0.38	0.13	1.16
N06										
NT2	0									
RAE	117	9.40		0.35	0.18	0.69		0.19	0.08	0.45
RCB	95	25.26		1.13	0.66	1.94		0.66	0.32	1.37
RCD	34	14.71		0.58	0.21	1.55		0.22	0.06	0.88
RCF	42	7.14		0.26	0.08	0.86		0.18	0.04	0.73
RR8	6	83.33		16.69	1.91	145.58		20.81	1.50	289.14
RWY	50	10.00		0.37	0.14	0.98		0.58	0.19	1.80
RXF	35	14.29		0.56	0.21	1.50		0.55	0.17	1.74
N07										
RJL	37	5.41		0.19	0.04	0.82		0.20	0.04	0.94
RWA	161	26.71		1.22	0.78	1.91		0.87	0.48	1.58
N08										

				Unadjusted				Adjusted		
Trust code	Total N	% received surgery		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RFF	1	0.00								
RFS	76	11.84		0.45	0.21	0.95		0.38	0.15	0.94
RHQ	233	18.88		0.78	0.50	1.20		0.67	0.38	1.19
RP5	171	12.28		0.47	0.27	0.80		0.28	0.14	0.56
RFR	8	50.00		3.34	0.81	13.74		1.14	0.21	6.27
N11										
RBK	90	17.78		0.72	0.39	1.33		0.39	0.17	0.88
RR1	173	27.17		1.25	0.80	1.93		1.17	0.66	2.09
RRJ	0									
RRK	155	16.77		0.67	0.40	1.12		0.47	0.24	0.93
RXK	147	17.01		0.68	0.41	1.15		0.74	0.39	1.41
N12										
RJC	3	0.00								
RKB	119	10.92		0.41	0.22	0.78		0.26	0.12	0.57
RLT	62	11.29		0.42	0.18	0.98		0.43	0.15	1.27
RWP	10	100.00								
N13										
RK5	122	11.48		0.43	0.23	0.81		0.18	0.08	0.40
RX1	185	30.27		1.45	0.95	2.21		0.70	0.39	1.24
N14										
RJF	70	27.14		1.24	0.68	2.26		0.91	0.40	2.08
RTG	115	21.74		0.93	0.55	1.57		0.97	0.49	1.95
N15										
RNQ	49	44.90		2.72	1.45	5.11		2.46	1.09	5.52
RNS	77	24.68		1.09	0.61	1.97		1.15	0.53	2.51
RWE	269	23.05		1.00				1.00		
N20										
RC9	52	32.69		1.62	0.85	3.09		0.96	0.42	2.21
RWH	49	14.29		0.56	0.24	1.30		0.15	0.05	0.46
RWG	20	90.00		30.05	6.78	133.08		25.62	5.42	121.14
N21										
RAS	41	12.20		0.46	0.17	1.23		0.32	0.09	1.14
RFW	45	6.67		0.24	0.07	0.80		0.18	0.04	0.76
RYJ	0									
RQM	60	8.33		0.30	0.12	0.79		0.22	0.08	0.64
RT3	4	100.00								
RV8	31	3.23		0.11	0.01	0.83		0.13	0.02	1.13
RC3	21	4.76		0.17	0.02	1.27		0.12	0.01	1.18
RFU	0									
N22										
RAL	61	21.31		0.90	0.46	1.78		0.76	0.27	2.14

				Unadjusted				Adjusted		
Trust code	Total N	% received surgery		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RAP	35	28.57		1.34	0.61	2.93		0.70	0.20	2.45
RKE	45	13.33		0.51	0.21	1.27		0.77	0.22	2.65
RQW	11	100.00		-						
RRV	120	45.83		2.83	1.79	4.46		2.68	1.38	5.21
RVL	29	58.62		4.73	2.14	10.44		3.84	1.21	12.17
N23										
RF4	146	26.71		1.22	0.77	1.93		1.56	0.86	2.85
RGC	80	13.75		0.53	0.27	1.07		0.68	0.28	1.65
RNH	51	21.57		0.92	0.44	1.90		0.69	0.26	1.82
RNJ	67	26.87		1.23	0.67	2.26		0.78	0.32	1.91
RQX	14	21.43		0.91	0.25	3.37		0.42	0.08	2.32
N24										
RG2	74	5.41		0.19	0.07	0.54		0.20	0.06	0.65
RG3	84	4.76		0.17	0.06	0.47		0.10	0.03	0.35
RGZ	14	0.00								
RJ1	18	11.11		0.42	0.09	1.86		0.42	0.07	2.45
RJ2	31	0.00								
RJZ	66	13.64		0.53	0.25	1.13		0.25	0.10	0.64
N25										
5LG	2	0.00								
RPY	0									
RJ6	12	0.00								
RJ7	50	26.00		1.17	0.59	2.35		1.01	0.44	2.31
RVR	72	1.39		0.05	0.01	0.35		0.05	0.01	0.39
RAX	57	5.26		0.19	0.06	0.61		0.32	0.09	1.16
N26										
RA9	102	13.73		0.53	0.28	1.00		0.56	0.23	1.35
RBZ	27	25.93		1.17	0.47	2.89		0.45	0.14	1.47
REF	144	15.97		0.63	0.37	1.08		0.89	0.47	1.69
RH8	71	19.72		0.82	0.43	1.57		0.82	0.35	1.91
RK9	147	4.76		0.17	0.07	0.38		0.18	0.07	0.45
N27										
RBD	47	14.89		0.58	0.25	1.37		1.17	0.44	3.12
RD3	87	10.34		0.39	0.18	0.81		0.37	0.13	1.02
RDZ	94	14.89		0.58	0.31	1.10		0.43	0.19	0.95
N28										
RA3	69	4.35		0.15	0.05	0.50		0.10	0.03	0.39
RA4	47	4.26		0.15	0.03	0.63		0.18	0.04	0.87
RA7	62	12.90		0.49	0.22	1.10		0.39	0.15	1.01
RBA	83	2.41		0.08	0.02	0.34		0.08	0.02	0.36
RD1	24	12.50		0.48	0.14	1.65		0.86	0.23	3.22

				Unadjusted				Adjusted		
Trust code	Total N	% received surgery		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RVJ	18	5.56		0.20	0.03	1.51		0.22	0.03	1.88
N29										
RLQ	60	13.33		0.51	0.23	1.14		0.63	0.24	1.65
RTE	126	19.05		0.79	0.46	1.33		0.80	0.40	1.57
N30										
RD7	22	86.36		21.15	6.06	73.82		8.85	2.00	39.13
RD8	48	22.92		0.99	0.48	2.06		0.71	0.28	1.80
RHW	109	11.93		0.45	0.24	0.86		0.31	0.14	0.71
RN3	71	11.27		0.42	0.19	0.93		0.18	0.07	0.48
RP1	1	100.00		-						
RTH	138	7.25		0.26	0.13	0.53		0.09	0.04	0.21
RXQ	93	27.96		1.30	0.76	2.21		0.34	0.17	0.70
N31										
RHM	1	0.00								
RN1	66	3.03		0.10	0.02	0.44		0.12	0.03	0.53
RN5	24	8.33		0.30	0.07	1.33		0.71	0.14	3.50
RNZ	38	0.00								
RPR	79	13.92		0.54	0.27	1.08		0.25	0.10	0.64
RR2	16	12.50		0.48	0.11	2.16		0.19	0.03	1.28
N32										
RA2	43	13.95		0.54	0.22	1.34		0.49	0.16	1.52
RTK	36	22.22		0.95	0.41	2.20		1.03	0.38	2.76
RDU	13	53.85		3.90	1.26	12.02		1.91	0.51	7.24
RTP	9	0.00								
N33										
RPL	61	4.92		0.17	0.05	0.57		0.11	0.03	0.41
RXC	122	10.66		0.40	0.21	0.76		0.18	0.08	0.40
RXH	10	0.00								
N34										
RN7	60	11.67		0.44	0.19	1.02		0.36	0.13	0.99
RPA	9	0.00								
RWF	9	0.00								
RVV	14	0.00								
N35										
RJD	102	5.88		0.21	0.09	0.50		0.15	0.05	0.44
RJE	0									
RL4	44	50.00		3.34	1.73	6.43		3.46	1.50	8.00
RXW	0									
N36										
RE9	72	6.94		0.25	0.10	0.65		0.16	0.05	0.48
RLN	146	13.01		0.50	0.29	0.87		0.38	0.18	0.80

				Unadjusted				Adjusted		
Trust code	Total N	% received surgery		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
RNL	101	7.92		0.29	0.13	0.62		0.17	0.07	0.42
RR7	33	6.06		0.22	0.05	0.93		0.10	0.02	0.53
RTD	122	9.84		0.36	0.19	0.70		0.25	0.11	0.59
RTF	100	9.00		0.33	0.16	0.69		0.29	0.12	0.70
RTR	171	7.02		0.25	0.13	0.48		0.21	0.10	0.45
RVW	145	15.86		0.63	0.37	1.07		0.48	0.24	0.94
RXP	183	13.11		0.50	0.30	0.84		0.38	0.20	0.74
N37										
RC1	48	12.50		0.48	0.19	1.17		0.24	0.08	0.74
RCX	58	8.62		0.31	0.12	0.82		0.30	0.10	0.90
RGM	2	50.00		3.34	0.21	54.16		0.25	0.01	4.36
RGN	9	0.00		-						
RGP	42	7.14		0.26	0.08	0.86		0.28	0.06	1.28
RGQ	9	11.11		0.42	0.05	3.40		0.51	0.06	4.32
RGR	55	7.27		0.26	0.09	0.75		0.33	0.10	1.03
RGT	4	50.00		3.34	0.46	24.19		0.77	0.04	13.23
RM1	142	2.11		0.07	0.02	0.23		0.10	0.03	0.34
RQQ	8	87.50		23.37	2.82	193.62		5.91	0.60	58.44
N38										
RAJ	132	7.58		0.27	0.14	0.55		0.22	0.10	0.51
RDD	51	19.61		0.81	0.39	1.72		0.35	0.14	0.89
RDE	116	20.69		0.87	0.51	1.48		0.66	0.31	1.38
RQ8	53	5.66		0.20	0.06	0.66		0.27	0.07	1.08
SEW										
RVM	151	12.58		0.48	0.27	0.84		0.30	0.14	0.63
RRS	58	0.00								
RVE	65	10.77		0.40	0.18	0.93		0.15	0.06	0.41
RVF	172	0.00								
SWW										
RVA	64	10.94		0.41	0.18	0.94		0.30	0.10	0.93
RKU	18	33.33		1.67	0.60	4.63		1.48	0.40	5.43
RR6	56	10.71		0.40	0.16	0.98		0.19	0.06	0.57
RVC	96	14.58		0.57	0.30	1.07		0.36	0.16	0.83
RVD	109	4.59		0.16	0.06	0.41		0.08	0.03	0.24
NW										
RT7	85	12.94		0.50	0.25	0.99		0.35	0.15	0.81
RT8	95	0.00								
RT9	86	6.98		0.25	0.10	0.60		0.14	0.05	0.40
Totals	10,452	14.37								

Table 8.8 Small Cell Lung Cancer – Proportion receiving chemotherapy by Network

				Unadjusted				Adjusted		
Code	Total N	Chemotherapy (%)		Odds Ratio	Lower CI	Upper CI		Odds Ratio	Lower CI	Upper CI
N01	67	73.13		0.99	0.50	1.93		1.34	0.63	2.85
N02	91	62.64		0.61	0.34	1.09		0.69	0.35	1.34
N03	86	61.63		0.58	0.32	1.05		0.64	0.33	1.27
N06	113	69.91		0.84	0.48	1.48		0.83	0.42	1.64
N07	54	64.81		0.67	0.34	1.33		0.40	0.18	0.89
N08	89	64.04		0.65	0.36	1.16		0.57	0.29	1.13
N11	124	73.39		1.00				1.00		
N12	41	60.98		0.57	0.27	1.19		0.43	0.19	1.00
N13	67	70.15		0.85	0.44	1.64		0.63	0.29	1.37
N14	34	85.29		2.10	0.75	5.89		1.73	0.52	5.76
N15	85	72.94		0.98	0.52	1.82		0.81	0.40	1.65
N20	11	18.18		0.08	0.02	0.39		0.06	0.01	0.33
N21	32	25.00		0.12	0.05	0.30		0.13	0.05	0.34
N22	45	82.22		1.68	0.71	3.97		2.45	0.85	7.02
N23	69	79.71		1.42	0.70	2.90		1.69	0.78	3.71
N24	70	42.86		0.27	0.15	0.50		0.27	0.13	0.56
N25	41	53.66		0.42	0.20	0.87		0.61	0.27	1.37
N26	91	76.92		1.21	0.64	2.27		1.11	0.55	2.26
N27	45	77.78		1.27	0.57	2.85		2.21	0.87	5.63
N28	49	65.31		0.68	0.34	1.39		0.78	0.34	1.80
N29	45	66.67		0.73	0.35	1.52		0.38	0.16	0.89
N30	92	48.91		0.35	0.20	0.61		0.23	0.12	0.45
N31	47	72.34		0.95	0.45	2.01		0.61	0.26	1.44
N32	5	40.00		0.24	0.04	1.51		0.74	0.09	6.11
N33	38	52.63		0.40	0.19	0.85		0.23	0.09	0.55
N34	18	66.67		0.73	0.25	2.09		0.70	0.22	2.27
N35	50	64.00		0.64	0.32	1.30		0.70	0.32	1.53
N36	253	62.06		0.59	0.37	0.95		0.48	0.28	0.83
N37	56	60.71		0.56	0.29	1.09		0.52	0.24	1.11
N38	84	54.76		0.44	0.24	0.79		0.42	0.21	0.82
SEW	115	41.74		0.26	0.15	0.45		0.15	0.08	0.28
SWW	84	38.10		0.22	0.12	0.40		0.11	0.05	0.21
NW	43	37.21		0.21	0.10	0.45		0.18	0.08	0.44
Totals	**2,234**	**61.91**								

8.5 Outcomes For Lung Cancer Patients

Once again, raw measures of the survival outcomes for patients do not take account of the different casemix between organisations. The tables below give data for unadjusted median survival for patients (separately reported for all NSCLC and for histologically-confirmed NSCLC) by trust and network in England and Wales. The tables also contain the unadjusted and casemix adjusted hazard ratios for survival compared to a baseline organisation. As discussed below, higher hazard ratios indicate a higher death rate (or risk of death) than the baseline trust.

Survival times were calculated from date of diagnosis although if this was missing date first seen was utilised. Follow-up was measured up to 4/11/08 for England and 23/06/08 for Wales. Median survival times (time at which 50 per cent of patients in the trust or network were still alive) were calculated from Kaplan-Meier models. The median survival time could not be estimated where more than 50 per cent of individuals were still alive by the end of follow-up, so some table cells are empty.

Note that the English death data was validated against the Personal Demographics Service data on 04/11/2008. This is a facility that is available within the LUCADA database and it was not possible to validate Welsh data in the same way because these data were collected on the CANISC system. Hence Welsh death data were not checked against an independent source and is based on the file extracted on 23/06/2008. This difference in follow up times for England and Wales should be noted, however whilst longer follow-up would tell more about the individuals who lived for longer, the time to 50 per cent survival would not change. The main issue is that there may be slightly more missing data in the Welsh trusts, due to follow-up being shorter.

The Greater Manchester and Cheshire Cancer Network have used the stimulus of the NLCA to adopt a more structured approach to MDT presentations and to streamline their data collection processes and integrate data flows. Furthermore, the local action planning toolkit issued by the NLCA is being used as a planning tool for other audits as well as identifying gaps in the lung cancer pathway.

To compare unadjusted and adjusted survival rates between trusts and networks Cox regression models were fitted and hazard ratios from these models are reported. The hazard ratio is a comparison of the rate of death between two (groups), which in this case was a trust/network compared to a specified baseline trust/network. A hazard ratio of 1 indicates no difference in death rates between the two groups. A hazard ratio greater than one indicates the baseline trust/network has a lower rate of death, i.e. a better survival rate, compared to the comparison trust/network, and a hazard ratio less than one indicates the comparison trust/network had a lower rate of death. In the tables baseline organisations are shown in blue.

Comparing hazard ratios gives a more meaningful comparison of survival between units than does a comparison of median survival or survival to one year, as it uses all available data. The adjusted hazard ratios were adjusted for sex, age, stage, performance status and deprivation. As with the odds ratios, the adjusted hazard ratios allow trusts or networks to be compared as if they had treated the same casemix of patients in terms of the adjusted variables.

Table 8.9a Median Survival By Network – NSCLC (All Lung Cancer Excluding SCLC and Mesothelioma)

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard ratio	Lower CI	Upper CI		Hazard ratio	Lower CI	Upper CI
N01	439	212		0.97	0.85	1.09		0.85	0.74	0.96
N02	1,021	217		0.94	0.85	1.02		0.88	0.80	0.97
N03	710	157		1.11	1.00	1.22		0.90	0.81	0.99
N06	1,409	153		1.15	1.06	1.24		1.14	1.05	1.24
N07	313	266		0.84	0.73	0.97		0.91	0.78	1.05
N08	960	209		0.95	0.87	1.05		0.93	0.85	1.02
N11	763	173		1.10	1.00	1.21		1.07	0.97	1.18
N12	337	189		1.09	0.95	1.24		1.06	0.92	1.21
N13	543	206		0.92	0.82	1.03		1.23	1.09	1.38
N14	343	190		0.96	0.83	1.10		0.94	0.82	1.08
N15	651	188		1.03	0.93	1.14		0.96	0.86	1.07
N20	477	124		1.28	1.14	1.44		1.38	1.23	1.56
N21	511	211		0.94	0.84	1.06		0.91	0.81	1.02
N22	365	248		0.75	0.65	0.87		0.88	0.76	1.02
N23	629	258		0.82	0.74	0.92		0.81	0.72	0.90
N24	517	163		1.06	0.94	1.19		0.96	0.86	1.08
N25	311	206		0.90	0.77	1.04		0.84	0.72	0.97
N26	830	179		0.99	0.90	1.09		0.88	0.79	0.97
N27	415	206		1.02	0.90	1.15		0.92	0.81	1.05
N28	446	232		0.91	0.80	1.03		0.76	0.67	0.86
N29	248	199		0.93	0.80	1.09		0.89	0.76	1.05
N30	741	251		0.83	0.75	0.92		0.94	0.84	1.04
N31	335	145		1.22	1.06	1.39		1.17	1.02	1.34
N32	218	253		0.97	0.82	1.14		0.84	0.71	0.99
N33	400	134		1.23	1.09	1.39		1.23	1.09	1.39
N34	461	222		0.94	0.83	1.06		0.96	0.85	1.09
N35	175	169		1.07	0.90	1.28		1.05	0.88	1.26
N36	1,920	182		1.00						
N37	624	212		0.96	0.87	1.07		0.93	0.83	1.03
N38	515	171		1.09	0.97	1.22		1.13	1.00	1.26
SEW	804	178		0.98	0.89	1.09		0.93	0.83	1.03
SWW	505	198		0.93	0.82	1.06		1.02	0.90	1.16
NW	366	531		0.55	0.46	0.65		0.52	0.43	0.61
Total	**19,302**	**196**								

Table 8.9b Median Survival By Trust – NSCLC (All Lung Cancer Excluding SCLC and Mesothelioma)

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N01										
RTX	114	231		0.92	0.73	1.16		0.80	0.63	1.03
RXL	158	189		0.88	0.71	1.10		0.79	0.63	0.99
RXN	66	223		0.84	0.62	1.14		0.86	0.63	1.18
RXR	101	254		0.82	0.64	1.06		0.69	0.53	0.89
N02										
RBV	1			1.44	0.20	10.28		0.76	0.11	5.39
RJN	64	221		0.86	0.63	1.18		0.87	0.64	1.20
RM2	49	453		0.56	0.37	0.83		0.58	0.39	0.86
RM3	188	194		0.88	0.73	1.08		0.82	0.68	1.00
RM4	6	239		0.64	0.20	1.98		0.29	0.09	0.89
RMC	146	184		0.93	0.75	1.16		0.69	0.55	0.86
RMP	103	144		1.03	0.80	1.32		1.19	0.92	1.53
RRF	97	189		0.98	0.76	1.26		1.06	0.82	1.38
RW3	95	203		0.82	0.62	1.07		0.70	0.53	0.93
RW6	268	256		0.75	0.63	0.90		0.74	0.61	0.89
RWJ	4			0.00	.	.		0.00	.	.
N03										
RBL	115	150		1.00	0.79	1.27		0.95	0.74	1.20
RBN	152	137		1.10	0.90	1.36		0.90	0.73	1.11
RBQ	98	369		0.57	0.43	0.75		0.48	0.36	0.64
REM	38	79		1.35	0.94	1.93		1.04	0.73	1.49
RJR	101	69		1.32	1.04	1.68		0.90	0.70	1.15
RQ6	37	259		0.70	0.47	1.05		0.50	0.33	0.75
RVY	20	38		2.10	1.29	3.42		1.74	1.07	2.83
RWW	149	132		1.04	0.84	1.29		0.81	0.65	1.00
N06										
NT2	1			1.16	0.16	8.24		2.19	0.31	15.58
RAE	195	122		1.23	1.02	1.48		1.16	0.96	1.41
RCB	138	275		0.69	0.54	0.88		0.74	0.58	0.94
RCD	60	209		0.86	0.62	1.17		0.88	0.64	1.22
RCF	74	150		0.94	0.71	1.26		0.82	0.61	1.11
RR8	493	157		1.00				1.00		
RWY	90	87		1.30	1.01	1.67		1.10	0.86	1.41
RXF	358	133		1.14	0.98	1.34		1.10	0.94	1.28

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N07										
RJL	58	222		0.93	0.68	1.27		0.80	0.58	1.10
RWA	255	281		0.72	0.60	0.87		0.81	0.67	0.98
N08										
RFF	47	226		0.82	0.57	1.18		0.76	0.52	1.09
RFS	154	182		0.94	0.76	1.16		0.99	0.80	1.23
RHQ	336	214		0.80	0.68	0.95		0.85	0.71	1.01
RP5	299	204		0.86	0.73	1.02		0.75	0.63	0.90
RFR	124	236		0.93	0.74	1.16		0.84	0.67	1.06
N11										
RBK	128	198		0.97	0.78	1.22		0.82	0.65	1.03
RR1	218	187		0.93	0.77	1.12		0.97	0.80	1.17
RRJ	1			2.76	0.39	19.64		3.62	0.51	25.81
RRK	186	237		0.93	0.76	1.13		0.97	0.79	1.18
RXK	230	110		1.13	0.94	1.35		1.02	0.85	1.23
N12										
RJC	5	301		0.99	0.37	2.66		1.01	0.38	2.71
RKB	221	165		1.03	0.86	1.23		0.95	0.79	1.14
RLT	99	165		1.06	0.83	1.35		0.99	0.77	1.27
RWP	12			0.13	0.03	0.52		0.22	0.05	0.88
N13										
RK5	162	198		0.89	0.72	1.10		1.04	0.84	1.29
RX1	381	220		0.81	0.69	0.95		1.13	0.96	1.34
N14										
RJF	112	177		0.84	0.66	1.09		0.80	0.62	1.03
RTG	231	201		0.87	0.72	1.05		0.86	0.71	1.05
N15										
RNQ	153	186		0.98	0.80	1.21		0.96	0.78	1.18
RNS	121	158		0.96	0.76	1.21		0.79	0.62	1.00
RWE	377	190		0.90	0.77	1.05		0.85	0.72	1.00
N20										
RC9	135	163		1.03	0.83	1.29		1.23	0.99	1.54
RWH	160	90		1.36	1.11	1.66		1.46	1.19	1.78
RWG	182	136		1.10	0.90	1.34		1.06	0.87	1.29
N21										
RAS	82	154		1.13	0.87	1.46		1.03	0.79	1.34
RFW	70	165		1.00	0.75	1.34		0.78	0.59	1.05
RYJ	195	263		0.74	0.60	0.90		0.75	0.61	0.92

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
RQM	67	379		0.58	0.41	0.82		0.62	0.44	0.87
RT3	4			0.22	0.03	1.56		0.45	0.06	3.24
RV8	54	128		1.00	0.72	1.38		0.84	0.60	1.16
RC3	39	137		1.13	0.78	1.63		1.00	0.69	1.44
RFU	0									
N22										
RAL	82	144		0.91	0.68	1.21		0.76	0.57	1.01
RAP	52	133		1.08	0.78	1.50		1.04	0.75	1.45
RKE	59	185		0.90	0.65	1.24		0.75	0.54	1.04
RQW	12			0.00	.	.		0.00	.	.
RRV	124	559		0.49	0.37	0.65		0.74	0.56	0.98
RVL	36			0.50	0.30	0.82		0.78	0.47	1.29
N23										
RF4	221	215		0.90	0.75	1.09		0.80	0.66	0.97
RGC	100	115		1.21	0.95	1.54		1.07	0.83	1.37
RNH	105	292		0.69	0.53	0.90		0.79	0.60	1.04
RNJ	150			0.40	0.31	0.52		0.41	0.31	0.53
RQX	53	66		0.70	0.49	1.01		0.77	0.54	1.11
N24										
RG2	140	129		1.06	0.85	1.32		1.01	0.81	1.25
RG3	120	165		0.89	0.71	1.13		0.63	0.49	0.80
RGZ	70	131		1.16	0.88	1.55		1.15	0.87	1.53
RJ1	47	272		0.61	0.41	0.90		0.63	0.43	0.94
RJ2	49	187		1.01	0.72	1.40		0.86	0.61	1.20
RJZ	91	155		0.93	0.71	1.21		1.02	0.78	1.34
N25										
5LG	2	280		0.40	0.06	2.86		0.30	0.04	2.16
RPY	0									
RJ6	53	176		0.82	0.57	1.16		0.76	0.54	1.08
RJ7	59	283		0.67	0.47	0.95		0.73	0.52	1.04
RVR	120	220		0.74	0.58	0.95		0.70	0.54	0.90
RAX	77	157		1.07	0.82	1.41		0.85	0.64	1.12
N26										
RA9	142	159		0.79	0.63	1.00		0.67	0.53	0.85
RBZ	39	315		0.67	0.44	1.00		0.90	0.59	1.36
REF	268	128		1.02	0.86	1.21		0.83	0.69	1.00
RH8	144	181		0.91	0.73	1.14		0.85	0.68	1.06
RK9	237	198		0.86	0.72	1.04		0.79	0.64	0.96

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N27										
RBD	90	139		1.23	0.96	1.58		0.94	0.73	1.22
RD3	135	190		0.80	0.63	1.01		0.74	0.59	0.94
RDZ	190	231		0.88	0.72	1.07		0.84	0.69	1.03
N28										
RA3	80	164		1.01	0.77	1.33		0.82	0.62	1.08
RA4	60	165		0.93	0.68	1.27		0.82	0.60	1.12
RA7	84	378		0.55	0.40	0.75		0.57	0.41	0.78
RBA	124	218		0.89	0.70	1.12		0.65	0.51	0.83
RD1	50	252		0.77	0.54	1.11		0.65	0.45	0.93
RVJ	48	247		0.80	0.55	1.15		0.69	0.48	1.01
N29										
RLQ	88	199		0.88	0.67	1.14		0.79	0.61	1.04
RTE	160	189		0.82	0.66	1.02		0.81	0.65	1.01
N30										
RD7	66	304		0.70	0.51	0.97		0.93	0.67	1.29
RD8	70	209		0.90	0.67	1.21		1.02	0.76	1.37
RHW	151	228		0.78	0.62	0.98		0.82	0.65	1.03
RN3	130	135		1.01	0.81	1.27		0.96	0.76	1.21
RP1	1			0.00	.	.		0.00	.	.
RTH	216	281		0.65	0.53	0.80		0.73	0.59	0.89
RXQ	107	269		0.62	0.47	0.81		0.83	0.63	1.10
N31										
RHM	7	69		1.36	0.61	3.05		1.45	0.65	3.25
RN1	93	118		1.32	1.03	1.68		1.27	0.99	1.62
RN5	47	79		1.41	1.02	1.95		0.92	0.66	1.27
RNZ	63	169		0.95	0.70	1.29		0.89	0.65	1.21
RPR	95	200		0.89	0.69	1.16		0.95	0.73	1.24
RR2	30	120		1.07	0.69	1.64		1.44	0.93	2.22
N32										
RA2	48	177		0.95	0.67	1.33		0.84	0.59	1.19
RTK	39	224		0.81	0.55	1.19		0.75	0.51	1.10
RDU	14			0.24	0.09	0.64		0.38	0.14	1.01
RTP	117	253		0.98	0.78	1.23		0.78	0.62	1.00
N33										
RPL	99	146		1.16	0.91	1.48		1.32	1.03	1.70
RXC	174	135		1.07	0.88	1.31		1.05	0.85	1.28
RXH	127	126		1.12	0.90	1.40		1.05	0.84	1.31

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N34										
RN7	72	327		0.65	0.47	0.89		0.74	0.54	1.02
RPA	16	179		1.11	0.65	1.89		1.24	0.73	2.12
RWF	158	186		0.96	0.78	1.18		0.91	0.74	1.12
RVV	215	233		0.83	0.69	1.00		0.81	0.67	0.98
N35										
RJD	119	129		1.15	0.92	1.44		0.99	0.79	1.25
RJE	3	213		1.52	0.49	4.72		0.91	0.29	2.84
RL4	52	286		0.65	0.46	0.93		0.85	0.59	1.21
RXW	1			0.84	0.12	6.01		0.78	0.11	5.57
N36										
RE9	123	210		0.79	0.62	1.00		0.78	0.61	1.00
RLN	210	146		1.06	0.88	1.27		1.00	0.83	1.21
RNL	197	193		0.88	0.72	1.07		0.93	0.76	1.14
RR7	90	262		0.74	0.56	0.97		0.74	0.56	0.98
RTD	185	185		0.93	0.77	1.14		0.93	0.76	1.14
RTF	283	195		0.83	0.69	0.98		0.81	0.68	0.97
RTR	244	206		0.85	0.71	1.02		0.85	0.71	1.03
RVW	264	140		1.05	0.88	1.25		0.95	0.79	1.14
RXP	324	167		0.91	0.77	1.07		0.93	0.78	1.10
N37										
RC1	74	164		1.09	0.83	1.44		1.17	0.88	1.55
RCX	59	208		0.97	0.71	1.32		1.03	0.76	1.41
RGM	5			0.38	0.10	1.54		1.01	0.25	4.05
RGN	26	172		0.92	0.59	1.44		0.97	0.62	1.53
RGP	54	199		0.91	0.65	1.27		0.75	0.53	1.05
RGQ	9			0.43	0.16	1.14		0.39	0.14	1.05
RGR	103	131		1.10	0.86	1.39		0.84	0.65	1.07
RGT	67	356		0.56	0.41	0.79		0.75	0.54	1.05
RM1	179	192		0.90	0.74	1.10		0.78	0.63	0.96
RQQ	48	325		0.60	0.41	0.87		0.77	0.53	1.13
N38										
RAJ	172	161		1.05	0.86	1.28		0.98	0.80	1.20
RDD	127	136		0.97	0.77	1.22		1.13	0.90	1.43
RDE	147	210		0.85	0.68	1.06		0.95	0.76	1.20
RQ8	69	170		1.17	0.89	1.54		0.99	0.75	1.30
SEW										
RVM	252	168		0.96	0.80	1.15		0.94	0.78	1.13

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazard Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
RRS	109	152		1.07	0.83	1.37		0.85	0.66	1.09
RVE	102	190		0.94	0.72	1.22		0.94	0.72	1.22
RVF	341	239		0.78	0.65	0.92		0.72	0.60	0.86
SWW										
RVA	103	144		1.11	0.86	1.44		1.13	0.87	1.46
RKU	19	235		0.87	0.48	1.59		1.24	0.68	2.26
RR6	87	177		0.82	0.61	1.10		0.90	0.67	1.21
RVC	158	151		0.98	0.79	1.23		1.05	0.84	1.32
RVD	138	336		0.58	0.45	0.76		0.64	0.49	0.83
NW										
RT7	102	531		0.57	0.42	0.78		0.56	0.41	0.77
RT8	127			0.37	0.27	0.51		0.30	0.22	0.41
RT9	137	450		0.56	0.43	0.74		0.58	0.44	0.77
Totals	**19,302**	**196**								

Within the North Trent Network, Sheffield and the surrounding trusts (Rotherham, Chesterfield, Doncaster and Barnsley) identified from the NLCA and other sources that their surgical resection and survival rates were worse than a number of comparable units. This has triggered an ongoing piece of in depth analytical work which is being overseen by the Network and the Strategic Health Authority (SHA).

Pan Birmingham Lung Cancer Network use the NLCA headline indicators as their key performance indicators. They now get good quality data from across the network. The majority of trusts are now above the national average for most headline indicators but there is considerable variation in reported resection rates. Local Action Plans (LAPs) will be used to address this and they plan to review all potentially resectable cases that were not operated on. The Network state that this is the first time they have had reliable national data to compare themselves against and this has driven critical analysis of outcomes. They hope that this will improve clinical outcomes but need another years worth of data to prove this.

Table 8.10a Median Survival By Network – Histologically-confirmed NSCLC

				Adjusted				Unadjusted		
Code	Total N	50% survival (days)		Hazard ratio	Lower CI	Upper CI		Hazard ratio	Lower CI	Upper CI
N01	334	223		1.05	0.89	1.25		1.04	0.88	1.24
N02	318	252		1.00	0.84	1.18		1.01	0.85	1.21
N03	323	261		0.96	0.81	1.14		0.88	0.74	1.05
N06	379	232		1.04	0.89	1.23		1.23	1.04	1.45
N07	198	266		0.91	0.75	1.12		1.21	0.98	1.49
N08	489	235		1.01	0.86	1.17		1.23	1.05	1.45
N11	565	208		1.14	0.98	1.32		1.26	1.09	1.47
N12	194	218		1.12	0.92	1.36		1.24	1.01	1.52
N13	307	262		0.92	0.77	1.10		1.49	1.24	1.79
N14	185	241		1.01	0.82	1.24		1.16	0.94	1.44
N15	395	238		0.99	0.84	1.16		1.11	0.94	1.31
N20	121	211		1.11	0.87	1.42		1.82	1.42	2.33
N21	202	220		1.04	0.85	1.27		1.10	0.90	1.35
N22	301	270		0.84	0.70	1.02		1.11	0.91	1.34
N23	358	230		1.11	0.94	1.31		1.25	1.05	1.47
N24	287	175		1.19	1.00	1.42		1.27	1.06	1.51
N25	193	230		0.97	0.79	1.19		0.98	0.79	1.21
N26	491	230		1.00				1.00		
N27	228	237		1.13	0.93	1.36		1.17	0.97	1.42
N28	303	247		1.00	0.84	1.20		0.92	0.77	1.09
N29	186	231		1.04	0.85	1.27		1.09	0.88	1.33
N30	482	285		0.86	0.74	1.01		1.12	0.95	1.31
N31	224	173		1.28	1.07	1.55		1.38	1.15	1.67
N32	101	257		1.00	0.77	1.30		0.99	0.76	1.29
N33	193	164		1.30	1.07	1.58		1.54	1.26	1.88
N34	92	324		0.90	0.69	1.19		1.08	0.82	1.43
N35	146	173		1.15	0.93	1.43		1.21	0.97	1.51
N36	1,073	212		1.07	0.94	1.22		1.24	1.09	1.43
N37	377	215		1.09	0.93	1.28		1.14	0.97	1.35
N38	352	192		1.16	0.98	1.36		1.33	1.12	1.57
SEW	446	188		1.11	0.94	1.30		1.26	1.07	1.49
SWW	343	292		0.91	0.76	1.09		1.13	0.93	1.36
NW	266	301		0.58	0.46	0.72		0.58	0.46	0.73
Total	**10,452**	**232**								

Table 8.10b Median Survival By Trust – Histologically-confirmed NSCLC

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazards Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N01										
RTX	100	216		1.29	0.99	1.69		1.04	0.78	1.37
RXL	131	209		1.06	0.82	1.37		0.86	0.65	1.13
RXN	51	286		0.99	0.68	1.44		0.95	0.65	1.38
RXR	52	243		1.04	0.72	1.49		0.84	0.58	1.22
N02										
RBV	0									
RJN	41	326		1.14	0.77	1.68		1.18	0.80	1.75
RM2	10	212		1.38	0.71	2.69		1.00	0.51	1.96
RM3	16	235		0.88	0.46	1.66		0.80	0.42	1.51
RM4	4	239		0.77	0.19	3.10		0.20	0.05	0.83
RMC	92	192		1.28	0.97	1.68		0.92	0.70	1.21
RMP	38	145		1.23	0.82	1.86		1.47	0.98	2.23
RRF	38	270		1.18	0.79	1.77		1.29	0.86	1.94
RW3	40	536		0.61	0.38	0.98		0.49	0.31	0.79
RW6	37	298		0.85	0.55	1.33		1.06	0.68	1.66
RWJ	2			0.00	0.00	.		0.00	0.00	.
N03										
RBL	58	192		1.19	0.85	1.68		1.03	0.73	1.46
RBN	19	594		0.40	0.19	0.85		0.33	0.16	0.71
RBQ	80	369		0.76	0.55	1.05		0.59	0.43	0.81
REM	26	121		1.73	1.12	2.67		1.17	0.76	1.82
RJR	56	157		1.20	0.85	1.70		1.03	0.73	1.46
RQ6	28	249		1.06	0.67	1.68		0.71	0.45	1.13
RVY	2	37		1.11	0.15	7.89		1.24	0.17	8.84
RWW	54	239		1.13	0.80	1.60		0.84	0.59	1.19
N06										
NT2	0									
RAE	117	192		1.23	0.95	1.59		1.30	1.00	1.68
RCB	95	316		0.79	0.58	1.08		0.90	0.66	1.22
RCD	34	215		1.02	0.66	1.58		1.20	0.78	1.86
RCF	42	212		1.14	0.77	1.68		1.08	0.73	1.61
RR8	6	442		0.54	0.17	1.68		0.65	0.21	2.04
RWY	50	161		1.68	1.20	2.35		1.35	0.96	1.89
RXF	35	283		1.15	0.75	1.76		1.07	0.70	1.64
N07										
RJL	37	230		1.15	0.76	1.73		1.05	0.69	1.59

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazards Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
RWA	161	284		0.93	0.73	1.18		1.13	0.89	1.44
N08										
RFF	1			1.10	0.15	7.89		1.84	0.26	13.17
RFS	76	192		1.26	0.94	1.70		1.20	0.89	1.61
RHQ	233	238		0.99	0.80	1.24		1.15	0.92	1.43
RP5	171	233		1.11	0.88	1.40		1.11	0.88	1.40
RFR	8			0.48	0.15	1.51		1.17	0.37	3.65
N11										
RBK	90	215		1.24	0.93	1.65		1.02	0.77	1.36
RR1	173	220		1.10	0.87	1.39		1.14	0.90	1.44
RRJ	0									
RRK	155	252		1.20	0.95	1.52		1.20	0.95	1.53
RXK	147	159		1.31	1.03	1.67		1.24	0.97	1.59
N12										
RJC	3	301		1.08	0.27	4.35		1.01	0.25	4.06
RKB	119	236		1.23	0.96	1.58		1.18	0.91	1.52
RLT	62	174		1.34	0.97	1.85		1.19	0.86	1.65
RWP	10			0.20	0.05	0.82		0.29	0.07	1.19
N13										
RK5	122	235		1.07	0.82	1.38		1.35	1.04	1.75
RX1	185	276		0.92	0.73	1.16		1.42	1.12	1.79
N14										
RJF	70	203		1.04	0.75	1.45		1.10	0.79	1.54
RTG	115	247		1.08	0.83	1.41		1.07	0.82	1.39
N15										
RNQ	49	226		1.08	0.75	1.56		1.25	0.87	1.79
RNS	77	234		1.17	0.87	1.59		0.98	0.72	1.32
RWE	269	257		1.00				1.00		
N20										
RC9	52	198		1.18	0.82	1.70		1.88	1.30	2.70
RWH	49	156		1.61	1.13	2.27		2.34	1.65	3.32
RWG	20			0.47	0.22	1.00		0.51	0.24	1.09
N21										
RAS	41	191		1.28	0.87	1.88		1.27	0.85	1.91
RFW	45	179		1.27	0.88	1.84		1.12	0.77	1.61
RYJ	0									
RQM	60	379		0.77	0.53	1.12		0.67	0.46	0.99
RT3	4			0.29	0.04	2.10		0.54	0.08	3.85
RV8	31	154		1.29	0.83	1.99		1.01	0.65	1.57

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazards Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
RC3	21	148		1.49	0.90	2.44		1.33	0.81	2.19
RFU	0									
N22										
RAL	61	185		1.20	0.85	1.70		0.87	0.62	1.23
RAP	35	126		1.60	1.08	2.39		1.90	1.28	2.84
RKE	45	184		1.32	0.90	1.92		1.13	0.77	1.65
RQW	11			0.00	0.00	.		0.00	0.00	.
RRV	120	498		0.69	0.51	0.93		0.95	0.71	1.28
RVL	29			0.60	0.34	1.08		1.02	0.57	1.83
N23										
RF4	146	246		1.15	0.91	1.47		0.98	0.76	1.25
RGC	80	120		1.47	1.10	1.97		1.43	1.07	1.92
RNH	51	242		1.14	0.80	1.63		1.26	0.88	1.82
RNJ	67	256		1.03	0.75	1.43		1.18	0.84	1.64
RQX	14	257		0.86	0.44	1.69		1.25	0.64	2.46
N24										
RG2	74	117		1.60	1.19	2.15		1.66	1.24	2.24
RG3	84	190		1.06	0.78	1.43		0.84	0.62	1.13
RGZ	14	182		1.36	0.74	2.51		1.25	0.68	2.32
RJ1	18	186		0.88	0.48	1.63		0.88	0.48	1.64
RJ2	31	244		1.27	0.84	1.93		0.92	0.60	1.41
RJZ	66	120		1.30	0.94	1.79		1.58	1.14	2.19
N25										
5LG	2	280		0.53	0.07	3.79		0.37	0.05	2.67
RPY	0									
RJ6	12	129		1.22	0.60	2.48		0.94	0.46	1.92
RJ7	50	283		0.88	0.60	1.31		0.87	0.58	1.30
RVR	72	221		1.01	0.73	1.40		0.88	0.62	1.23
RAX	57	218		1.16	0.82	1.63		0.86	0.61	1.22
N26										
RA9	102	159		1.15	0.87	1.53		0.96	0.73	1.27
RBZ	27	322		0.83	0.51	1.37		1.19	0.71	1.99
REF	144	230		1.07	0.84	1.37		0.81	0.63	1.05
RH8	71	260		0.99	0.71	1.37		0.90	0.65	1.24
RK9	147	239		1.06	0.83	1.36		0.90	0.69	1.17
N27										
RBD	47	187		1.62	1.15	2.28		1.22	0.86	1.72
RD3	87	160		1.32	0.99	1.76		1.14	0.85	1.53
RDZ	94	292		0.94	0.71	1.26		0.96	0.72	1.28

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazards Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N28										
RA3	69	185		1.27	0.92	1.73		0.96	0.70	1.31
RA4	47	185		1.29	0.89	1.85		1.06	0.74	1.53
RA7	62	342		0.84	0.59	1.20		0.78	0.54	1.13
RBA	83	236		1.08	0.80	1.46		0.72	0.53	0.97
RD1	24	260		0.86	0.50	1.48		0.65	0.37	1.13
RVJ	18	277		0.83	0.42	1.61		0.70	0.36	1.37
N29										
RLQ	60	235		1.13	0.81	1.58		1.04	0.75	1.45
RTE	126	227		1.08	0.83	1.39		0.98	0.76	1.27
N30										
RD7	22			0.25	0.10	0.61		0.38	0.16	0.93
RD8	48	240		1.28	0.89	1.84		1.47	1.02	2.12
RHW	109	258		1.00	0.75	1.32		0.99	0.75	1.32
RN3	71	243		1.08	0.78	1.49		1.19	0.86	1.65
RP1	1			0.00	0.00	.		0.00	0.00	.
RTH	138	274		0.92	0.71	1.19		0.98	0.75	1.27
RXQ	93	301		0.77	0.56	1.05		0.93	0.68	1.29
N31										
RHM	1			1.79	0.25	12.80		3.47	0.48	24.97
RN1	66	148		1.63	1.21	2.21		1.40	1.02	1.93
RN5	24	132		1.59	1.00	2.52		0.96	0.60	1.53
RNZ	38	169		1.43	0.97	2.10		1.18	0.80	1.74
RPR	79	232		1.04	0.76	1.41		1.16	0.85	1.58
RR2	16	149		1.65	0.94	2.90		2.24	1.27	3.94
N32										
RA2	43	150		1.45	1.00	2.09		1.16	0.80	1.67
RTK	36	257		1.03	0.68	1.56		0.82	0.54	1.26
RDU	13			0.35	0.13	0.95		0.46	0.17	1.23
RTP	9	321		1.02	0.45	2.29		0.66	0.29	1.48
N33										
RPL	61	168		1.39	1.01	1.92		1.36	0.98	1.88
RXC	122	156		1.36	1.06	1.75		1.45	1.12	1.86
RXH	10	117		1.46	0.72	2.96		1.09	0.53	2.21
N34										
RN7	60	308		0.96	0.68	1.36		1.03	0.73	1.45
RPA	9	269		0.96	0.45	2.03		1.39	0.65	2.97
RWF	9	61		1.30	0.58	2.94		1.63	0.72	3.69
RVV	14	404		0.77	0.39	1.50		0.59	0.30	1.16

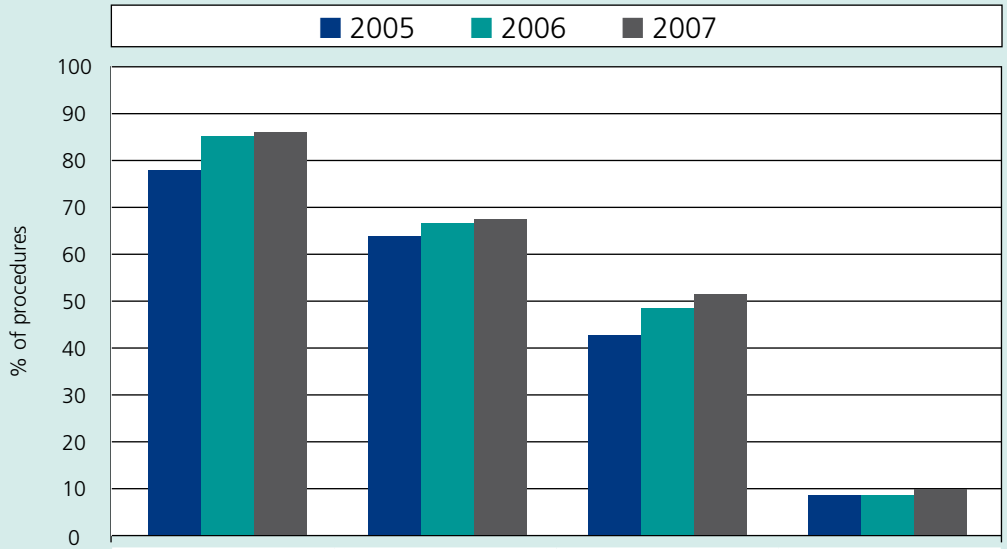
				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazards Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
N35										
RJD	102	146		1.51	1.16	1.96		1.18	0.91	1.54
RJE	0									
RL4	44	320		0.75	0.49	1.14		0.92	0.61	1.41
RXW	0									
N36										
RE9	72	286		0.92	0.66	1.27		0.90	0.64	1.26
RLN	146	164		1.36	1.07	1.73		1.22	0.96	1.55
RNL	101	263		1.04	0.79	1.38		1.22	0.92	1.62
RR7	33	268		0.91	0.58	1.43		0.93	0.59	1.46
RTD	122	156		1.24	0.96	1.60		1.19	0.92	1.54
RTF	100	209		1.08	0.82	1.44		1.07	0.81	1.43
RTR	171	236		1.10	0.87	1.39		1.01	0.79	1.29
RVW	145	235		1.07	0.84	1.37		1.11	0.87	1.43
RXP	183	187		1.17	0.93	1.47		1.32	1.05	1.65
N37										
RC1	48	240		1.05	0.73	1.53		1.27	0.87	1.84
RCX	58	202		1.33	0.96	1.84		1.26	0.90	1.75
RGM	2			0.00	0.00	.		0.00	0.00	.
RGN	9	118		1.75	0.86	3.55		1.84	0.90	3.76
RGP	42	170		1.36	0.92	2.00		1.00	0.68	1.47
RGQ	9	212		0.57	0.21	1.55		0.46	0.17	1.26
RGR	55			1.22	0.87	1.71		0.98	0.70	1.37
RGT	4			0.00	0.00	.		0.00	0.00	.
RM1	142	195		1.22	0.95	1.55		0.95	0.74	1.24
RQQ	8			0.39	0.13	1.23		0.98	0.31	3.07
N38										
RAJ	132	174		1.37	1.08	1.76		1.29	1.01	1.66
RDD	51	181		0.95	0.65	1.39		1.28	0.87	1.88
RDE	116	225		1.03	0.79	1.34		1.09	0.83	1.42
RQ8	53	192		1.63	1.19	2.24		1.27	0.92	1.77
SEW										
RVM	151	168		1.38	1.08	1.76		1.35	1.05	1.73
RRS	58	149		1.48	1.05	2.08		1.44	1.02	2.03
RVE	65	190		1.26	0.90	1.77		1.29	0.92	1.81
RVF	172	260		0.91	0.70	1.17		0.91	0.71	1.17
SWW										
RVA	64	196		1.24	0.87	1.76		1.20	0.85	1.71
RKU	18	155		1.27	0.69	2.33		1.70	0.93	3.14

				Unadjusted				Adjusted		
Code	Total N	50% survival (days)		Hazards Ratio	Lower CI	Upper CI		Hazard Ratio	Lower CI	Upper CI
RR6	56	320		0.98	0.67	1.45		1.10	0.75	1.62
RVC	96	232		1.03	0.75	1.39		1.15	0.85	1.57
RVD	109	372		0.74	0.54	1.02		0.79	0.58	1.08
NW										
RT7	85	392		0.79	0.55	1.12		0.76	0.53	1.08
RT8	95			0.37	0.25	0.57		0.26	0.17	0.39
RT9	86	450		0.75	0.53	1.06		0.79	0.55	1.12
Totals	**10,452**	**232**								

8.6 Are The Standards Of Care Improving?

It is not straightforward to compare the measures of process and outcome across the three years of NLCA Annual Reports. Some measures in earlier reports are for English organisations only. Data from earlier years is altered as new information (such as date of death) becomes available. Furthermore it is difficult to assess what effects are caused by improvements in the standard of data completeness. Despite these caveats, comparison of headline data across the annual reports does suggest a steady improvement in these quality measures. This is shown in figure 8.1.

Figure 8.1



	MDT Discussion	HCR	Active treatment	Surgery
2005	78%	64%	43%	9%
2006	86%	67%	48%	9%
2007	87%	68%	51%	10%

9.0 Recommendations

9.1 Local Action Planning Toolkit

In June 2008, the NLCA distributed a local action planning (LAP) toolkit to all trust lung cancer leads in England and Wales. The toolkit gave recommendations in the areas of data completeness, process and clinical outcome and encouraged local organisations to use their own data to consider service redesign and improvement.

Recommendations based on this annual report have been formulated into a new, updated LAP toolkit. Everyone with responsibility for lung cancer patients is strongly encouraged to consider the results for their organisation contained within this report, to benchmark their results against other units, and then to use the LAP toolkit to leverage service improvement where necessary. The toolkit is reproduced here but can be downloaded from the website (http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/cancer/lung).

It is important to remember that where a clinical recommendation has been made (for example surgical resection rate), this should not be considered as a "target" but rather as a benchmark to stimulate local consideration and perhaps more in-depth local audit. In some cases it may be entirely appropriate that local performance falls outside of our recommendations.

In March 2008 NHS Quality Improvement Scotland published Core Cancer Standards as well as revised national lung cancer standards (www.nhshealthquality.org). Plans are being drawn up under the recently published Scottish Government strategy "Better Cancer Care, an Action Plan" for networks to use reporting against these standards to assure the quality of cancer services. The published standards cover the areas noted below in "Recommendations" albeit with variations in required levels of achievement. For example the requirement for recording of stage and performance status is higher at 90 per cent.

Note that the recommendations concerning the lung cancer nurse specialist are based on provisional analyses undertaken internally by the NLCA. It was not possible to publish these data in this report because the changes to the database facilitating the collection of these data items did not occur until the middle of 2007. Hospitals are encouraged to review their performance by using the on-line reports within the LUCADA system. Full reporting of these fields will take place in the next annual report for patients first seen in 2008.

9.2 Recommendations

Recommendations are divided into three sections – data completeness and quality, process of care and clinical outcomes.

9.3 Data Completeness And Quality

For valid casemix adjustment and comparison between organisations, the data submitted must be of a high quality and as complete as possible. Note the following specific recommendations:

All trusts should ensure that they participate in this national audit

- Organisations should ensure that they have a recognised individual with responsibility to maintain participation and data quality over time. This will require liaison with local IT providers to ensure that local IT solutions are able to quickly adapt to changes in datasets.

- In Scotland all networks currently participate in national prospective lung cancer audit. Core national cancer standards require that data should be captured in a form which meets the requirements of national data standards and that data is subject to external QA.

Data on all patients diagnosed with either lung cancer or mesothelioma are submitted to the audit

- Organisations should ensure they are capturing data on all patients, not just those having active treatment, or those discussed in an MDT. Local mechanisms should be introduced to ensure that cases managed by non-specialists are picked up, perhaps by monitoring of local radiology and pathology reports and review of death certification. Consideration should be given to discussing such patients at an MDT which will also serve to increase the proportion of patients discussed at an MDT (see below) However note that patients discussed at an MDT for the first time after death will not be counted towards the target in LUCADA. Note also that mesothelioma data is not currently collected as part of the national prospective cancer audit in Scotland.

All relevant data fields are completed for each patient

- The NLCA dataset is diverse and it makes sense for different individuals to have responsibility for different areas of the dataset. For example, demographics and referral information may be obtained by audit staff or MDT co-coordinators, treatment details and nursing data by the lung cancer specialist nurse, and other clinical information by a medical member of the MDT. Regardless of the specific roles, it makes sense to collect as much of the information as possible in the MDT itself, perhaps by use of a paper or electronic proforma. Local protocols should be agreed to allow treatment data from other hospitals to be collected and submitted. Prior to data submission, the data should be quality checked to ensure each record has at least the key data fields completed.

Actual completeness of at least 75 per cent should be achieved for key data fields including stage and performance status

- There are 14 highlighted key data items that are most important for collection. Details of these key fields can be found in the document http://www.ic.nhs.uk/services/national-clinical-audit-support-programme-ncasp/cancer/lung/user-information on the National Lung Cancer Audit Website. Stage and performance status are key variables for case-mix adjustment. MDT chairs may assist data collection by highlighting these for each individual patient discussed in the MDT. Clinicians may assist data collection by including the information in clinical notes and correspondence. Prior to data submission, the data should be quality checked to ensure each record has all these fields completed. Note that these key data items are a minimum requirement and do not include all data items that may be used in audit analyses, hence data on all patients should be completed for as many data items as possible.

- In Scotland the nationally-agreed standard for completeness of stage and performance status data fields is 90 per cent.

9.4 Process Of Care

Four elements of the process of care have been highlighted as indications of the quality of care provided to patients. Please note that the data fields relating to lung cancer nurse specialists were only introduced part way through 2007 and so analyses for these fields have not been documented in the main body of the report.

Over 95 per cent of patients submitted to the audit are discussed at an MDT

- MDT working is now established as an important mechanism for ensuring that patients receive the most appropriate investigation and treatment. Some patients may only come to the attention of the MDT after death and although it can still be useful to discuss these patients, this discussion cannot be recorded by LUCADA. This means that a figure of 100 per cent MDT discussion is not achievable, but mechanisms should be introduced to ensure that all patients are discussed at least once at an MDT. Having clear but straightforward systems for MDT referral coupled with an awareness of these systems by all individuals across an organisation will improve performance against this measure.

The Histological/Cytological Confirmation Rate is at least 75 per cent

- Confirmation of the diagnosis of lung cancer and its subtype is a vital part of the process of care allowing informed discussion at an MDT, thus leading to appropriate treatment. At the same time, it is appreciated that seeking a histological or cytological diagnosis in very elderly and unwell patients may not be appropriate if the results will never alter the patient's management. The figure suggested of 75 per cent is somewhat arbitrary, but is achieved by a substantial proportion of trusts, particularly after local audit has led to a change in diagnostic strategy. Histological or cytological confirmation rates below this level should lead to a local audit or review of non-confirmed cases and consideration of whether alternative diagnostic strategies may be necessary. Organisations should ensure they have access to the full range of biopsy techniques. A useful strategy might be to liaise with and learn from other trusts that have higher confirmation rates. Similarly, very high confirmation rates may indicate an overly aggressive strategy or more likely an under-reporting of the full spectrum of lung cancer patients.

Over 60 per cent of patients are seen by a lung cancer specialist nurse

- The specialist nurse provides support, is a source of information and acts as a point of contact for the patients along their diagnostic and treatment pathway. Of the 9866 patient records entered into the LUCADA database between July - December 2007, 3463 (35.1 per cent) patients were recorded as being seen by lung cancer nurse specialists, 405 (11.7 per cent) were recorded as not seen. The remaining 5988 (60.7 per cent) were either unknown or not recorded. An initial target of 60 per cent has been agreed, although it is acknowledged that ultimately the aim should be to approach 100 per cent. Trusts with a figure below this level should review their specialist nurse service, ensuring all nursing posts are staffed and that clear referral pathways exist. A low figure may serve to reinforce a business case for funding for more specialist nurse time.

Over 40 per cent of patients have a lung cancer specialist nurse present at the time of diagnosis

- The specialist nurse provides extra support to the patient and family at the time of diagnosis and ideally all patients should have this service available to them. For the 3463 patients recorded as being seen by a lung cancer nurse specialist, the nurse specialist was recorded as being present when the patient received their diagnosis of lung cancer for 1855 (53.6 per cent) cases. The nurse specialist was recorded as not present for 610 (17.6 per cent) cases. This works out to 18.8 per cent of the entire lung cancer population recorded on the database for the period. An initial target of 40 per cent has been agreed, although it is acknowledged that ultimately the aim should be considerably higher. A low figure should prompt review of the specialist nurse service, perhaps including allocation of extra nursing support alongside lung cancer clinics.

9.5 Clinical Outcomes

Three clinical outcomes are robust enough to be considered as recommendations.

Surgical resection rates below the national mean of 10 per cent must be reviewed

- Surgical resection is the main driver for improving 5-year survival but the resection rate varies widely across the UK. Regular attendance at the MDT by a thoracic surgeon forms an important part of the Cancer Peer Review measures for England and should be considered essential for providing a high quality service. If the local resection rate is low, local audit or review of treatment decisions and local guidelines for early stage lung cancer in patients with good performance status is advocated. A useful strategy might be to liaise with and learn from other trusts that have higher resection rates.

- Scottish standards do not specify an overall percentage level for surgical resection.

Active anti-cancer treatment rates below the national mean 51 per cent should be reviewed

- Overall, only half of patients in the UK were recorded as receiving any active anti-cancer treatment and again this varies widely across the UK. Where treatment rates are low it is important to ensure that this is not a reflection of poor quality data. However, if the proportion is genuinely low, a local audit or review of treatment policies for lung cancer patients should be undertaken.

Chemotherapy rates for small cell lung cancer below the national mean of 62 per cent should be reviewed

- The progression of disease in patients with small cell lung cancer is often rapid and in many patients there is a relatively brief "window of opportunity" when treatment is feasible and is likely to be reasonably effective. Low treatment rates may therefore (amongst other things) be a result of delays in the diagnostic and staging pathway which needs to be accelerated in this situation. If the proportion of chemotherapy-treated small cell patients is low, then a local audit or review of the management of these patients should be undertaken to consider the reasons for non-treatment.

Figure 9.1 Local action plan (LAP) based on the recommendations of this report.

Royal College of Physicians
Setting higher medical standards

NHS
The Information Centre
for health and social care

Local Action Plan	
Cancer Network	
Trust	
Audit Title	National Lung Cancer Audit

Recommendation	Achieved Y/N/P/NK	Planned Action	Suggested Actions	Suggested Responsibility	Date plan actioned	Date issue resolves
Data Completeness and Quality						
The trust participates in this national audit			Contact local Cancer Network for audit advice Contact NCASP Lung Cancer Audit Project Manager (roz.stanley@ic.NHS.uk) Visit www.ic.nhs.uk/cancer audits for information. Obtain read and disseminate the Lung Cancer Audit Annual Report	Cancer Manager / Governance Lead		
Data on all patients diagnosed with either lung cancer or mesothelioma are submitted to the audit			Use MDT meetings to capture all cases discussed, Try to record cases in real time or near real time. Liaise with pathology departments to correlate cases. Work with IT department to set up CSV file upload facility if information is collected on a third party system or identify resources to input data directly	MDT Chair		
All relevant data fields are completed for each patient			Use proforma for data collection at MDT. Identify key person to QA data prior to submission. Data inputters understand clinical implications of data. Map and allocate responsibility along patient pathway. Agree protocols and submission routes for patients that are treated across different organisations	Data Co-ordinator / Cancer Manager / Network Manager		
Actual completeness of at least 75% should be achieved for key data fields including stage and performance status			Refer to the document 14 key data items on the National Lung Cancer Audit Website and ensure that these fields are completed for all relevant cases. Assist MDT co-ordinator by chair ensuring that stage, performance status and other key fields are discussed and recorded for each patient	MDT Chair, Data Co-ordinator / Cancer Manager/ Network Manager		

Recommendation	Achieved Y/N/P/NK	Planned Action	Suggested Actions	Suggested Responsibility	Date plan actioned	Date issue resolves
Process of Care						
Over 95 % of patients submitted to the audit are discussed at an MDT			Liaise with cancer waiting times team to identify lung cancer referrals. Liaise with radiology department to identify all imaging suspicious of lung cancer or mesothelioma. Liaise with pathology department to identify cases	MDT chair, Lung cancer clinical lead		
The Histological Confirmation Rate is at least 75%			Ensure all histological diagnoses are submitted to the audit. Liaise with pathology department to identify cases. Review clinical diagnoses and diagnostics protocols if HCR is below optimum	MDT chair, Lung cancer clinical lead		
Over 60% of patients are seen by a lung cancer specialist nurse			Review the specialist nurse service, ensuring all nursing posts are staffed and that clear referral pathways exist	MDT chair, Lung cancer clinical lead, specialist nurse		
Over 40% of patients have a lung cancer specialist nurse present at the time of diagnosis			Review the specialist nurse service, allocate extra nursing support alongside lung cancer clinics	MDT chair, Lung cancer clinical lead, specialist nurse		

Recommendation	Achieved Y/N/P/NK	Planned Action	Suggested Actions	Suggested Responsibility	Date plan actioned	Date issue resolves
Clinical Outcomes						
Surgical resection rates below the national mean of 10% must be reviewed			Ensure that all surgical resections are submitted to the audit. If data is complete then review treatment policies for early stage lung cancer in patients with good performance status. Ensure that thoracic surgeon attends MDT meetings	MDT chair, Lung cancer clinical lead, thoracic surgeons		
The proportion of patients receiving any active anti-cancer treatment should exceed the national mean of 51%			Ensure that all treatments are submitted to the audit. Review treatment policies for lung cancer patients	MDT chair, Lung cancer clinical lead. MDT members		
The chemotherapy rate for small cell lung cancer should exceed the national mean of 62%			Ensure that all treatments are submitted to the audit. Review treatment policies for small cell lung cancer patients	MDT chair, Lung cancer clinical lead. MDT members		

Appendix

Network to trust mapping and code lookup table

National Lung Cancer Audit Network Trust Lookup Table	
Code	**Network/Trust**
N01	Lancashire and South Cumbria Cancer Network
RTX	University Hospitals of Morecambe Bay NHS Trust
RXL	Blackpool, Fylde and Wyre Hospitals NHS Trust
RXN	Lancashire Teaching Hospitals NHS Foundation Trust
RXR	East Lancashire Hospitals NHS Trust
N02	Greater Manchester and Cheshire Cancer Network
RBV	Christie Hospital NHS Trust
RJN	East Cheshire NHS Trust
RM2	South Manchester University Hospitals NHS Trust
RM3	Salford Royal Hospitals NHS Trust
RM4	Trafford Healthcare NHS Trust
RMC	Bolton Hospitals NHS Trust
RMP	Tameside and Glossop Acute Services NHS
RRF	Wrightington, Wigan and Leigh NHS Trust
RW3	Central Manchester and Manchester Children's University Hospital NHS Trust
RW6	Pennine Acute Hospitals NHS Trust
RWJ	Stockport NHS Foundation Trust
RBT	The Mid Cheshire Hospitals NHS Trust
N03	Merseyside and Cheshire Cancer Network
RBL	Wirral University Teaching Hospital NHS
RBN	St Helens and Knowsley Hospitals NHS Trust
RBQ	Liverpool Heart and Chest Hospital NHS Trust
REM	Aintree Hospitals NHS Trust
RJR	Countess of Chester Hospital NHS Foundation Trust
RQ6	Royal Liverpool and Broadgreen University Hospitals NHS Trust
RVY	Southport and Ormskirk Hospital NHS Trust
RWW	North Cheshire Hospitals NHS Trust
REN	Clatterbridge Centre for Oncology NHS Trust
N06	Yorkshire Cancer Network
NT2	Nuffield Health (Leeds)
RAE	Bradford Teaching Hospitals NHS Foundation Trust
RCB	York Hospitals NHS Foundation Trust
RCD	Harrogate and District NHS Foundation Trust
RCF	Airedale NHS Trust
RR8	Leeds Teaching Hospitals NHS Trust
RWY	Calderdale and Huddersfield NHS Foundation Trust
RXF	Mid Yorkshire Hospitals NHS Trust
N07	Humber and Yorkshire Coast Cancer Network
RJL	Northern Lincolnshire and Goole Hospitals NHS Foundation Trust
RWA	Hull and East Yorkshire Hospitals NHS Trust
RCC	Scarborough and North East Yorkshire Healthcare NHS Trust
N08	North Trent Cancer Network
RFF	Barnsley Hospital NHS Foundation Trust
RFS	Chesterfield Royal Hospital NHS Foundation Trust
RHQ	Sheffield Teaching Hospitals NHS Foundation Trust
RP5	Doncaster and Bassetlaw Hospitals NHS Foundation Trust
RFR	The Rotherham NHS Foundation Trust
N11	Pan Birmingham Cancer Network
RBK	Walsall Hospitals NHS Trust
RR1	Heart of England NHS Foundation Trust
RRJ	Royal Orthopaedic Hospital NHS Foundation Trust
RRK	University Hospital Birmingham NHS Foundation Trust
RXK	Sandwell and West Birmingham Hospitals NHS Foundation Trust

National Lung Cancer Audit Network Trust Lookup Table	
Code	**Network/Trust**
N12	Arden Cancer Network
RJC	South Warwickshire General Hospitals NHS Trust
RKB	University Hospitals Coventry and Warwickshire NHS Trust
RLT	George Elliot Hospital NHS Trust
RWP	Worcestershire Acute Hospitals NHS Trust
N13	Mid Trent Cancer Network
RK5	Sherwood Forest Hospitals NHS Trust
RX1	Nottingham University Hospitals NHS Trust
RWD	United Lincolnshire Hospitals NHS Trust
N14	Derby/Burton Cancer Network
RJF	Burton Hospitals NHS Trust
RTG	Derby Hospitals NHS Foundation Trust
N15	Leicestershire Northampton and Rutland Cancer Network
RNQ	Kettering General Hospital NHS Trust
RNS	Northampton General Hospital NHS Trust
RWE	University Hospitals of Leicester NHS Trust
N20	Mount Vernon Cancer Network
RC9	Luton and Dunstable Hospital NHS Trust
RWH	East and North Hertfordshire NHS Trust
RWG	West Hertfordshire Hospitals NHS Trust
N21	West London Cancer Network
RAS	The Hillingdon Hospital NHS Trust
RFW	West Middlesex Hospital NHS Trust
RYJ	Imperial College Healthcare NHS Trust
RT3	Royal Brompton and Harefield NHS Trust
RV8	North West London Hospitals NHS Trust
RC3	Ealing Hospital NHS Trust
RFU	Bedfordshire and Hertfordshire Ambulance and Paramedic Service NHS Trust
N22	North London Cancer Network
RAL	Royal Free Hampstead NHS Trust
RAP	North Middlesex University Hospitals NHS Trust
RKE	The Whittington Hospital NHS Trust
RQW	Princess Alexandra Hospital NHS Trust
RRV	University College London Hospitals NHS Foundation Trust
RVL	Barnet and Chase Farm Hospitals NHS Trust
N23	North East London Cancer Network
RF4	Barking, Havering and Redbridge Hospitals NHS Trust
RGC	Whipps Cross University Hospital NHS Trust
RNH	Newham University Hospital NHS Trust
RNJ	Barts and the London NHS Trust
RQX	Homerton University Hospital NHS Foundation Trust
N24	South East London Cancer Network
RG2	Queen Elizabeth Hospital NHS Trust
RG3	Bromley Hospitals NHS Trust
RGZ	Queen Mary's Sidcup NHS Trust
RJ1	Guy's and St Thomas' NHS Foundation Trust
RJ2	The Lewisham Hospital NHS Trust
RJZ	King's College Hospital NHS Trust
N25	South West London Cancer Network
5LG	Queen Mary's Hospital PCT NHS Trust
RPY	The Royal Marsden NHS Foundation Trust
RJ6	Mayday Healthcare NHS Trust
RJ7	St George's Healthcare NHS Trust
RVR	Epsom and St Helier University Hospitals NHS Trust
RAX	Kingston Hospital NHS Trust

National Lung Cancer Audit Network Trust Lookup Table	
Code	**Network/Trust**
N26	Peninsula Cancer Network
RA9	South Devon Health Care NHS Trust
RBZ	Northern Devon Health Care NHS Trust
REF	Royal Cornwall Hospitals NHS Trust
RH8	Royal Devon and Exeter NHS Foundation Trust
RK9	Plymouth Hospitals NHS Trust
N27	Dorset Cancer Network
RBD	Dorset County Hospital NHS Foundation Trust
RD3	Poole Hospital NHS Trust
RDZ	Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust
N28	Avon Somerset and Wiltshire Cancer Network
RA3	Weston Area Health NHS Trust
RA4	Yeovil District Hospital NHS Foundation Trust
RA7	United Bristol Healthcare NHS Trust
RBA	Taunton and Somerset NHS Trust
RD1	Royal United Hospital Bath NHS Trust
RVJ	North Bristol NHS Trust
N29	3 Counties Cancer Network Cancer Network
RLQ	Hereford Hospitals NHS Trust
RTE	Gloucestershire Hospitals NHS Foundation Trust
RWP	Worcestershire Acute Hospitals NHS Trust
N30	Thames Valley Cancer Network
RD7	Heatherwood and Wexham Park Hospitals NHS Trust
RD8	Milton Keynes General Hospital NHS Trust
RHW	Royal Berkshire and Battle Hospitals NHS Trust
RN3	Swindon and Marlborough NHS Trust
RP1	Northamptonshire Healthcare NHS Trust
RTH	Oxford Radcliffe Hospitals NHS Trust
RXQ	Buckinghamshire Hospitals NHS Trust
N31	Central South Coast Cancer Network
RHM	Southampton University Hospitals NHS Trust
RN1	Winchester and Eastleigh Healthcare NHS Trust
RN5	North Hampshire Hospitals NHS Trust
RNZ	Salisbury Foundation NHS Trust
RPR	Royal West Sussex NHS Trust
RR2	Isle of Wight Healthcare NHS Trust
RHU	Portsmouth Hospitals NHS Trust
N32	Surrey, West Sussex and Hampshire Cancer Network
RA2	Royal Surrey County Hospital NHS Trust
RTK	Ashford and St Peter's Hospitals NHS Trust
RDU	Frimley Park Hospital NHS Foundation Trust
RTP	Surrey and Sussex Healthcare NHS Trust
N33	Sussex Cancer Network
RPL	Worthing and Southlands Hospitals NHS Trust
RXC	East Sussex Hospitals NHS Trust
RXH	Brighton and Sussex University Hospitals NHS Trust
N34	Kent and Medway Cancer Network
RN7	Dartford and Gravesham NHS Trust
RPA	Medway NHS Foundation Trust
RWF	Maidstone and Tunbridge Wells NHS Trust
RVV	East Kent Hospitals NHS Trust
N35	Greater Midlands Cancer Network
RJD	Mid Staffordshire General Hospitals NHS Trust
RJE	University Hospital of North Staffordshire NHS Trust
RL4	The Royal Wolverhampton Hospitals NHS Trust
RXW	Shrewsbury and Telford Hospital NHS Trust
RNA	Dudley Group of Hospitals NHS Trust

National Lung Cancer Audit Network Trust Lookup Table	
Code	**Network/Trust**
N36	North of England Cancer Network
RE9	South Tyneside NHS Foundation Trust
RLN	City Hospitals Sunderland NHS Foundation Trust
RNL	North Cumbria Acute Hospitals NHS Trust
RR7	Gateshead Health NHS Foundation Trust
RTD	The Newcastle Upon Tyne Hospitals NHS Trust
RTF	Northumbria Health Care NHS Trust
RTR	South Tees Hospitals NHS Trust
RVW	North Tees and Hartlepool NHS Trust
RXP	County Durham and Darlington Acute Hospitals NHS Trust
N37	Anglia Cancer Network
RC1	Bedford Hospital NHS Trust
RCX	The Queen Elizabeth Hospital King's Lynn NHS Trust
RGM	Papworth Hospital NHS Foundation Trust
RGN	Peterborough and Stamford NHS Foundation Trust
RGP	James Paget Healthcare NHS Foundation Trust
RGQ	Ipswich Hospital NHS Trust
RGR	West Suffolk Hospitals NHS Trust
RGT	Cambridge University Hospitals NHS Foundation Trust
RM1	Norfolk and Norwich University Hospital NHS Trust
RQQ	Hinchingbrooke Health Care NHS Trust
N38	Essex Cancer Network
RAJ	Southend University Hospital NHS Foundation Trust
RDD	Basildon and Thurrock University Hospitals NHS Foundation Trust
RDE	Essex Rivers Healthcare NHS Trust
RQ8	Mid Essex Hospital Services NHS Trust
SEW	South East Wales Regional Cancer Network
RWM	Cardiff and Vale NHS Trust
RRS	North Glamorgan NHS Trust
RVE	Pontypridd and Rhondda NHS Trust
RVF	Gwent Healthcare NHS Trust
SWW	South West Wales Regional Cancer Network
RVA	Carmarthenshire NHS Trust
RKU	Ceredigion and Mid Wales NHS Trust
RR6	Pembrokeshire and Derwyn NHS Trust
RVC	Swansea NHS Trust
RVD	Bro Morgannwg NHS Trust
NWW	North Wales Regional Cancer Network
RT7	North West Wales NHS Trust
RT8	Conway and Denbighshire NHS Trust
RT9	North East Wales NHS Trust

Glossary

adenocarcinoma a cancer of glandular tissue e.g. the mucus-secreting cells that line the airways in lung cancer this is classified as a type of non-small cell lung cancer. It is less strongly associated with smoking than some other types of lung cancer

anti-cancer treatment treatment to cure or control cancer progression

asbestos a fibrous silcate material

brachytherapy treatment modality using implantation or local application of radioactive material

bronchoscopy examination of the major air passages of the lung using a thin tube

Calman-Hine A report by Dr Kenneth Calman and Dr Deidre Hine, the Expert Advisory Group on Cancer. Sets out a strategic framework for creating a network of cancer care in England and Wales.

Cancer Network a system within the NHS to organise the integrated care of cancer patients across a region

CANISC Cancer Network Information System Cymru

carcinoid a tumour originating from neuro-endocrine cells that can released hormones and is not always malignant

carcinoma a cancer of epithelial tissue that line the inside or cover the outside of organs

carcinosarcoma a mixed cancer arising from both epithelial tissue (carcinoma) and supportive tissue (sarcoma)

cardiovascular relating to the heart and blood vessels

case ascertainment number of cases recorded as a proportion of those expected

Casemix a means of classifying patients for comparing quality of care

Casemix –adjusted performance and outcome data corrected for various factors including the age, social deprivation, extent of disease and fitness of the populations under study

CEEU Clinical Evaluation and Effectiveness Unit at the Royal College of Physicians

cerebrovascular relating to the brain and its blood vessels

chemotherapy drugs used in the treatment of cancer

co-morbidity co-existent illness(es) to the disease under consideration

COPD Chronic Obstructive Pulmonary Disease

CRG Clinical reference group

curative intending to cure

CWT Cancer Waiting Times initiative from Department of Health

cytological from the study of cells

dementia global impairment of mental function

deprivation absence of expected level of social provision

diagnosis confirming the presence of the disease measure the function of the lungs

HES Hospital Episode Statistics

histological from the study of tissues

Interquartile range the range of a particular variable excluding the highest quarter and lowest quarter of the values recorded

Ischaemic Heart Disease disease caused by reduced blood flow to the heart (coronary artery disease)

LUCADA system lung cancer audit database

lung resection surgical removal of a lung

MDT multi-disciplinary team

mediastinal lymph node sampling an operation to remove lymph glands near the trachea via an incision

mesothelioma cancer of the lining of the lung caused by asbestos

metastases a secondary tumour at a distance from the primary cancer

NCASP National Clinical Audit Support Programme

Network see 'Cancer Network'

NICE National Institute for Clinical Excellence

NLCA National Lung Cancer Audit

non-small cell carcinoma a group of lung cancer including squamous carcinoma and adenocarcinoma

NSCLC non-small cell lung cancer

Open Exeter a secure medical database storing NHS numbers

palliative care care to alleviate a disease without intent of cure

Performance Status a systematic method of recording the ability of an individual to undertake the tasks of normal daily life compared with that of a normal person

peritoneum membrane lining the abdominal cavity

Personal Demographics Service (PDS) central national electronic database holding demographic details of NHS patients in England.

PET scan positronic emission tomography scan

prognosis predicted outcome of a disease

radical intending to cure

radiotherapy cancer treatment using radiation

RCP Royal College of Physicians

SCLC small cell lung cancer (small cell carcinoma)

SIGN Scottish Intercollegiate Guidance Network

small cell carcinoma type of neuroendocrine lung cancer strongly associated with smoking

squamous cell carcinoma cancer of cells that cover or line organs of the body e.g. line the tubes of the lung. In lung cancer this is classified as a type of non-small cell lung cancer, it is strongly associated with smoking

staging the anatomical extent of a cancer

surgical resection an operation to remove abnormal tissues or organs

thoracic surgeon specialist surgeon who operates on the chest and lungs

thorax part of the trunk between the neck and abdomen

TNM staging system Tumour, Node Metastasis classification of the anatomical extent of cancer

WHO World Health Organisation

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