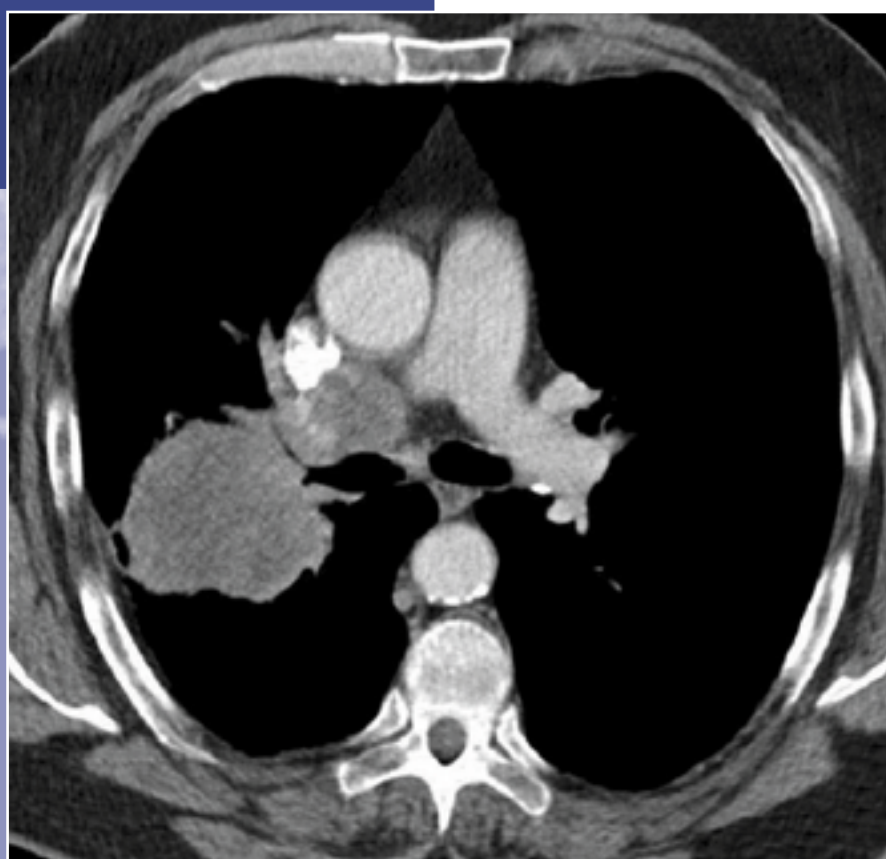


National Lung Cancer Audit



Initial Report for the audit period ending
December 2005

Prepared in association with:
The Healthcare Commission
Royal College of Physicians

National Lung Cancer Audit

Initial Report for the audit period ending December 2005

March 2006

Version 1.0



**Royal College
of Physicians**
Setting higher medical standards

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1. FOREWORD

This first report from the National Lung Cancer Audit represents significant progress in the establishment of comparative national clinical audit. Such data are a critical part of the evidence base for healthcare. The benefits of the audit will be realised by giving comparative feedback to service providers on all new cases of lung cancer.

The audit is a collaborative venture: it is commissioned by the Healthcare Commission, managed by the Information Centre, and the clinical lead is provided through the Royal College of Physicians.

I am pleased to report that both this audit and the related audit of head and neck cancer have achieved very high levels of participation across the country since their launch. I should like to take this opportunity to thank all those who have contributed to this valuable study.

The contribution to the audit – both in terms of the number of hospitals which submit data and in relation to the quality of these submissions – is very encouraging. Our future challenge is to ensure that there is complete coverage of hospitals and networks thus ensuring that the audit is comprehensive. In this way it will be better able to fulfil the potential to drive up the standards of patient care leading to improved outcomes.



Denise Liewesley

Chief Executive

Health & Social Care Information Centre

2. EXECUTIVE SUMMARY

This report contains a summary of the work that was carried out in the audit, and progress achieved during 2005, the first full year of the audit since its launch.

Participation

- 71% of the 190 hospitals eligible for participation in the audit had submitted data by the end of 2005
- the level of participation achieved was just below the target figure of 75%
- 12,000 new cases of lung cancer and mesothelioma had been recorded in the system by the end of 2005.

Data completeness

Participating hospitals by cancer network:

- eight of the 34 networks had full participation by the end of 2005, a further nine networks had all but one hospital contributing to the audit
- some major cancer centres have yet to submit data to the audit.

Expected annual cases by hospital:

- target (expected) numbers had been agreed with 60 hospitals by the end of 2005. It is essential that all cases are reported not just those that reach specialist lung cancer treatment services.

Key data fields completed:

- although some hospitals already achieve levels of field completeness that are adequate for the production of risk adjusted indicators, considerable efforts are still required to get all participants up to a satisfactory standard of data completion.

Headline Reports

For the 5137 cases submitted during the first nine months of 2005:

- 64% of patients had a histological and/or cytological diagnosis
The histological confirmation rate is a good surrogate marker of the overall standard of a lung cancer service, the optimum figure being 75-85%. It is not possible to determine if the shortfall reflects the standard of care or is because the audit data collected is incomplete.

- 81% of patients had been reviewed by a multi-disciplinary team (MDT)
National guidance recommends that 100% of patients should be reviewed by an MDT and although 81% is lower than the national guidelines it is, however, a big improvement on previously reported levels.
- 8% of patients had undergone surgical resection
HES and other data for the UK support this. 8% is low by international standards and there are variations within the UK.
- 39% of patients had received active anti-cancer treatment.
This is in line with published data available from the UK but it is low in comparison with international standards.

Reporting

The local reports package was revised in 2005, allowing local users to review their own information benchmarked against the national average. This capability will be enhanced in summer 2006 by the availability of a new online analysis tool – Performance Indicator Analysis Online (PIANO).

A detailed analysis of the audit data for 2005 will be made available during 2006.

Use of Audit Data

Annual Health Check

Information about participation in the audit is being provided to the Healthcare Commission for use in the Annual Health Check and is being used in the Peer Review process. Information on audit participation and data completeness will be used for 2006 and the first risk-adjusted clinical indicators will be included in 2007 for those hospitals whose 2006 data are of sufficient quality.

National Institute of Clinical Evidence (NICE) Guidance

Two of the key recommendations of the NICE guidance on the diagnosis and treatment of lung cancer are specifically addressed by the audit:

- proportion of patients receiving chemotherapy in advanced stage non-small cell lung cancer
- proportion of lung cancer patients discussed at an MDT.

Other NICE recommendations can also be measured but a wider range of the recommendations are being addressed through further development of the audit during 2006.

Recommendations

All hospitals and trusts involved in any part of the patient pathway for lung cancer should take steps to ensure their full participation in the audit for the 12-month period ending December 2006, thus ensuring that:

- their complete data is included in the national lung cancer audit analysis and reporting
- their audit participation is taken into account in the Healthcare Commission's Annual Health Check
- hospitals and networks are able to use their contribution to the audit as evidence in Peer Review.

3. BACKGROUND TO THE AUDIT

The National Lung Cancer Audit has been established on a formal basis following a Department of Health sponsored 'snapshot' audit of lung cancer services in the late 1990's. It is one of the first projects of national comparative audit aimed at helping clinicians and managers to improve the quality and outcomes of their services. The audit was originally referred to as LUCADA (**Lung Cancer Data**) from which the associated data collection system now takes its name.

Survival from lung cancer in the UK is poorer than that reported from the USA and most of Europe; similarly the proportion of patients receiving radical, potentially curative treatments (particularly surgery) are low in the UK. Some of the variation can be explained by differences in the definition and range of the populations studied, but it is unlikely that these factors can explain most of the very wide range reported. There are huge ranges in treatment and survival rates within the UK and some studies have demonstrated a clear correlation between active treatment rates and outcomes. These facts emphasise the serious need to raise the overall standards of care and to reduce regional variations within the UK.

UK data is largely derived from the Cancer Registries and their most robust analyses focus on survival. In the most recently published national performance indicators, which relate to patients with lung cancer diagnosed in England between 1993 and 1995, the 5 year survival rate varied from 2.2% to 8.8% - the mean being 5.5% (compared to a reported European average of between 10 and 11%).

Population studies show a four-fold difference in surgical resection rates across trusts in England and a three-fold range of active treatment rate. Thus, improving outcomes in the worst performing areas to those of the best could at least double the overall 5 year survival rate in the UK without any advances in treatment.

Although survival is the easiest endpoint to measure, in lung cancer (where even in the best hands, the majority of patients have incurable disease), high quality, rapid palliation is also vital as is experience of care for patients and their families. Such endpoints are more difficult to measure at a national level, but there is some evidence that services that provide high quality diagnostic, staging and treatment facilities (which can be more easily assessed using measures such as histological confirmation rate), are more likely to deliver quality care in these other less tangible areas.

What is not known is the extent to which these differences can be explained by regional variations in:

- configuration of services
- clinical management policies (including diagnosis, staging and treatment)
- the actual standards of specialist treatments (e.g. the availability of specialist thoracic surgeons and oncologists)
- casemix factors such as: 1) stage at presentation, 2) social deprivation (and its possible association with late presentation to medical care), 3) co-morbidity and 4) performance status.

An understanding of some of these factors will be gained through risk-adjustment of the audit data. With comprehensive cover of the country, the audit will provide feedback to healthcare providers and purchasers using up-to-date information on activity, performance and outcomes which can then be used for benchmarking, planning and prioritisation of service improvements. Since the data will be risk-adjusted, it will have the clinical credibility required to change practice. Information of this quality and timeliness has never been available for cancer services on a large scale anywhere in the world before. This audit therefore has the potential for bringing about major change in practice which could significantly impact on key outcomes such as survival.

The advantages of LUCADA over existing sources of data, such as the Cancer Registries and Hospital Episode Statistics (HES), are that the dataset is more clinically relevant, is collected in the clinical setting and therefore has clinical ownership. It is also able to provide comparative reports to local service providers within a short timescale.

The potential clinical benefits can be summarised as follows:

- the ability to identify the strengths and weaknesses of local, regional and national services for patients with lung cancer and mesothelioma
- increased clinical ownership of, and pride in, their services
- the ability to plan and prioritise service developments in this field, covering such issues as:
 - o service improvement initiatives
 - o investment priorities
 - o re-configuration of services
 - o manpower planning
 - o training requirements
- improved outcomes for patients:
 - o improved survival (potentially a doubling of overall long term survival rates)
 - o greater consistency of care both within and between regions
 - o improved palliation of symptoms
 - o a reduction in inappropriate treatments
 - o better information on service quality and outcomes, making choice more meaningful
 - o a better experience of care
- the establishment of performance and outcome benchmarks which can help inform future guideline development and monitor their implementation
- a major resource for research with the potential for liaison with the Cancer Registries and many high quality research programmes.

The audit uses data on activity, performance and outcomes for all patients with lung cancer and mesothelioma using a subset of the National Cancer Dataset (NCDS) in order to provide evidence to explain properly the differences in survival rates and treatment policies, and to determine the actions and resources that may be required to tackle them.

The audit supports a number of important national initiatives including:

- National Standard for Better Health C5 about participation in audit
- Cancer Peer Review
- NICE lung cancer guidelines
- Healthcare Commission trust assessment process (Annual Health Check).

Following a period of data collection from four early adopter sites beginning in January 2004, a programme of national rollout began in June 2004. As of December 2005, there were over 12,000 patient records submitted to LUCADA from almost two-thirds of eligible trusts representing 31 of the English Cancer Networks.

The National Lung Cancer Audit is commissioned by the Healthcare Commission and developed and delivered through a collaborative arrangement including:

- NHS Health and Social Care Information Centre
- Royal College of Physicians
- NHS Connecting for Health
- Department of Health
- Cancer Registries
- patient representatives
- user representatives.

4. DETAILS OF THE AUDIT

Management arrangements

The National Lung Cancer Audit is commissioned by the Healthcare Commission which has committed funding for a further three years until 2008/09. The LUCADA Implementation Group is responsible for the running of the project. The Group involves staff from:

- National Clinical Audit Support Programme (NCASP) in the Health and Social Care Information Centre, who manage nine of the national clinical audits commissioned by the Healthcare Commission
- Clinical Evaluation and Effectiveness Unit (CEEU) of the Royal College of Physicians, who provide clinical direction and information input
- National Health Applications and Infrastructure Service (NHAIS) in NHS Connecting for Health, who provide software development and helpdesk support
- Cancer Registries who provide input on issues relating to data quality and analysis
- Healthcare Commission
- Department of Health Cancer Policy Team.

The Implementation Group relates to three other bodies:

- Intercollegiate Lung Cancer Group (ICLCG) which provides strategic clinical advice and is responsible for approving LUCADA's information formats
- Joint Information Group (JIG) which is responsible for the development of analysis and risk-adjustment
- User Group which is responsible for providing user feedback with particular reference to the dataset and associated documentation.

Documentation for users

The documents about LUCADA that have been produced for users are:

- data manual (user guide) (extensively revised during 2005)
- quick start guide which contains simple instructions to help users with the system
- guides to the constitution and format of an upload file in csv or xml format.

These three documents are available on the LUCADA (NCASP) website.

Audit progress

During 2005:

- the website was redesigned
- software updates released to improve the audit; many of these followed user recommendations
- the helpdesk maintained a good standard of performance.

During 2006:

- completion of consultation on further development of the audit
- development and implementation of Phase 2 data collection (for release in Spring 2007)
- detailed analysis of 2005 data
- planning of improved analysis tools, including software to be developed as part of the NHS Connecting for Health Secondary Uses Service (SUS).

It is intended to continue quarterly software releases, which do not entail major changes to the dataset and system, through 2006. The release of version 2.0, which will introduce more significant amendments and additions, will be in Spring 2007. Many of the changes needed are identified by users and the user group will continue to be the major forum for initiating software changes.

The content of the quarterly releases during 2006 will include:

- improvements to assist the recording of data about mesothelioma
- recording of CHART radiotherapy
- automatic linkage of death data
- PIANO.

Major changes under consideration for version 2.0 include:

- a data item relating to 'why first choice treatment was not given' which would incorporate the current 'co-morbidity' field and record patients who refused treatment or died before it could be given
- new data items to record (PET) scanning and bronchoscopy
- capability of recording more treatment options including multi-modality therapy.

The Secondary Uses Service (SUS), being developed as part of NHS Connecting for Health, is intended as a common analytical tool for use in areas such as commissioning and audit. SUS will have the potential to link data from a variety of sources such as the national clinical audits, cancer waiting times, registries and HES. NCASP are closely involved with this national initiative. This mechanism for analysis and online graphical presentation of the audit data is to be employed for LUCADA - an operational version is under development and will be available during 2006.

Methods of capturing and uploading data

Options have been developed for the capture of LUCADA data because of the marked differences between users in the sophistication of their IT systems means that a number of technical solutions have been developed to capture the LUCADA data:

- direct data entry
- upload from a local system either at hospital, trust or network level.

Direct data entry software is available as a web-based application, where, on entry of the NHS number, patient details can be verified through the Open Exeter System.

Records can also be uploaded from local systems, including commercially supplied clinical or audit databases. Contact has been made with the leading commercial suppliers to ensure that their systems can capture the LUCADA dataset. A few networks are developing network-wide systems from which the data of all their hospitals will be uploaded to LUCADA.

Performance of the helpdesk

The LUCADA helpdesk is provided by NHS CfH (NHAIS) through a service level agreement with NCASP. It provides the IT infrastructure and associated technical and user support for the service. Monthly statistics facilitate performance monitoring of this service and the performance of the helpdesk has been good throughout the year. The helpdesk is available from 09:00 to 17:00 hours Monday to Friday excluding Public Holidays and all calls are given a negotiated priority depending on the business impact or level of inconvenience being caused.

Suggestions for changes to the system can be raised through the login screen of LUCADA. These are reviewed by the User Group and Implementation Group and considered for inclusion.

Compliance with standards

National systems of data collection, such as clinical audits, need to comply with:

- data standards
- confidentiality and privacy standards.

The Information Standards Board (ISB), part of the Health and Social Care Information Centre is responsible for approving national datasets. The LUCADA dataset received conditional approval at Operational Standard level in 2005. It is anticipated that a Data Set Change Notice (DSCN) will be issued following full approval.

The Patient Information Advisory Group (PIAG) has responsibility for the provision of support, under Section 60 of the Health and Social Care Act 2001, for the use of patient-identifiable data. This audit, along with the other NCASP audits, has PIAG support.

5. ROLL OUT OF THE AUDIT

Introduction

Following the early adopters stage, rollout of the audit started in June 2004. A major activity in 2005 has been the encouragement of all cancer networks and their eligible trusts to start the submission of data to LUCADA. The work has involved face-to face contacts as well as the production of written material.

Events run by LUCADA team

In 2005, the LUCADA team ran two workshops in the spring in Bradford and London with over 120 people attending.

Presentations given by LUCADA team

An important component of the communication strategy has been to seek out opportunities to encourage people to participate in LUCADA at both national and local level. Members of the audit team spoke at four national and three regional conferences during 2005; ten cancer networks were also visited.

Website

The NCASP website (www.icservices.nhs.uk/ncasp/pages/audit_topics/lungcancer/) was completely redesigned in 2005 and is updated regularly. It contains background and progress information, documentation and details of how to join the audit.

6. RECRUITMENT AND DATA COMPLETENESS

Recruitment

The recruitment target set within the project for 2005 was that at least 75% of eligible hospitals should have contributed data by the end of December, eligible hospitals being those which are involved in at least some part of the patient pathway for lung cancer.

At least 205 hospitals have been identified so far as being eligible for participation in LUCADA, but until all networks have fully engaged with the project, it will not be possible to finally determine the total number of eligible hospitals. 15 of the 205 hospital codes identified have been found to be redundant as centres have chosen to use other site codes or higher level codes, so the denominator used for the 2005 recruitment target is 190.

Of the 190 eligible hospitals:

- 135 (71%) submitted data in 2005
- 84 submitted data within the last three months of the year.

The purpose of monitoring data submission in the last three months (of any period) is to assess whether hospitals are continuing to submit or have lapsed in their participation in the audit.

There are 34 cancer networks and in nine of them all hospitals submitted data to LUCADA at some time during 2005. A further nine have only one non-participating hospital.

The achievement of a level of 71% of hospitals submitting data comes close to the recruitment target of 75%. The most common reason reported by potential users for not contributing to the audit was a lack of local resources to collect and input data due to the national introduction of weekly reporting about cancer waiting times.

Table 1 shows, for each network, the eligible hospitals and whether their codes were:

- used to submit data in the last three months of 2005
- used to submit data in 2005 but not for the last three months of the year or longer
- never used in 2005.

Table 1: Sites participating in LUCADA at 31 December 2005

Key

Site codes that have been used to submit data in the last three months	
Site codes that have been used to submit data but have not been used for three or more months	
Site codes that have never been used to submit data	
Site codes used to submit that are no longer used at the request of the site (alternative codes used instead)	
No data submitted during 2005	*

Organisation name

Org Code

Lancashire & South Cumbria Cancer Network	N01
LANCASHIRE TEACHING HOSPITALS NHS FOUNDATION TRUST	RXN
BLACKPOOLE, FYLDE & WYRE HOSPITALS NHS TRUST	RXL
UNIVERSITY HOSPITALS OF MORCAMBE BAY HOSPITALS NHS TRUST	RTX
EAST LANCASHIRE HOSPITALS NHS TRUST	RXR

Greater Manchester & Cheshire Cancer Network	N02
THE ROYAL BOLTON HOSPITAL	RMC00
FAIRFIELD GENERAL HOSPITAL	RW601
NORTH MANCHESTER GENERAL HOSPITAL	RW602
ROYAL OLDHAM HOSPITAL	RW603
ROCHDALE HOSPITAL	RW604
ROYAL ALBERT EDWARD INFIRMARY	RRF02
MACCLESFIELD DISTRICT GENERAL HOSPITAL	RJN71
WYTHENSHAW HOSPITAL	RM202
STOCKPORT NHS FOUNDATION TRUST	RWJ01
CHRISTIE HOSPITAL	RBV01
THE MID CHESHIRE HOSPITALS NHS TRUST	RBT
CENTRAL MANCHESTER AND MANCHESTER CHILDRENS UNIVERSITY HOSPITAL NHS TRUST	RW3
SALFORD ROYAL HOSPITALS NHS TRUST	RM3
TAMESIDE AND GLOSSOP ACUTE SERVICES NHS TRUST	RMP
TRAFFORD HEALTHCARE NHS TRUST	RM4
PENNINE ACUTE HOSPITALS NHS TRUST	RW600

Merseyside & Cheshire Cancer Network	N03
WHISTON HOSPITAL	RBN01
UNIVERSITY HOSPITAL AINTREE	REM21
CLATTERBRIDGE CENTRE FOR ONCOLOGY	REN20
WARRINGTON HOSPITAL	RWWWH
THE CARDIOTHORACIC CENTRE LIVERPOOL NHS TRUST	RBQ01
THE ROYAL LIVERPOOL UNIVERSITY HOSPITAL	RQ617
SOUTHPORT & FORMBY DISTRICT GENERAL HOSPITAL	RVY01
ORMSKIRK & DISTRICT GENERAL HOSPITAL	RVY02
ST HELENS & KNOWSLEY HOSPITALS NHS TRUST	RBN
WIRRAL HOSPITAL NHS TRUST	RBL
THE COUNTESS OF CHESTER HOSPITAL FOUNDATION NHS TRUST	RJR
AINTREE HOSPITALS NHS TRUST	REM00

Organisation name
Org Code

Northern Cancer Network	N04
THE NEWCASTLE UPON TYNE NHS TRUST	RTD00
SOUTH TYNESIDE DISTRICT GENERAL HOSPITAL	RE9GA
NORTH TYNESIDE (CLEARNET DATA)	RTF02
SUNDERLAND ROYAL HOSPITAL	RLNGL
CUMBERLAND INFIRMARY	RNLAY
GATESHEAD HEALTH NHS FOUNDATION TRUST	RR7

Teeside Durham & N Yorkshire Cancer Network	N05
UNIVERSITY HOSPITAL OF NORTH TEES	RVWAE
BISHOP AUCKLAND GENERAL HOSPITAL	RXPBA
DARLINGTON MEMORIAL HOSPITAL	RXPDA
SOUTH TEES HOSPITALS NHS TRUST	RTR00
THE JAMES COOK UNIVERSITY HOSPITAL	RTRAT
FRIARAGE HOSPITAL	RTR45
NORTH TEES AND HARTLEPOOL NHS TRUST	RVW00

Yorkshire Cancer Network	N06
BRADFORD ROYAL INFIRMARY	RAE01
YORK HEALTH SERVICES TRUST	RCB00
HARROGATE AND DISTRICT FOUNDATION NHS TRUST	RCD00
LEEDS TEACHING HOSPITAL NHS TRUST	RR800
HUDDERSFIELD ROYAL INFIRMARY	RWY01
YORK HOSPITAL	RCB55
AIREDALE NHS TRUST	RCF00
MID YORKSHIRE HOSPITALS NHS TRUST	RXF00 *
PONTEFRACT GENERAL HOSPITAL	RXF03
PINDERFIELDS GENERAL HOSPITAL	RXF05
LEEDS GENERAL INFIRMARY	RR801
ST JAMES'S UNIVERSITY HOSPITAL	RR813

Humber & Yorkshire Coast Cancer Network	N07
SCARBOROUGH GENERAL HOSPITAL	RCC25
HULL ROYAL INFIRMARY	RWA01
CASTLE HILL HOSPITAL	RWA16
BEVERLEY WESTWOOD HOSPITAL	RWA18
SCUNTHORPE GENERAL HOSPITAL	RJL32
NORTH LINCOLNSHIRE AND GOOLE HOSPITALS NHS TRUST	RJL00
DIANA, PRINCESS OF WALES HOSPITAL	RJL30
BRIDLINGTON & DISTRICT HOSPITAL	RV928
PRINCESS ROYAL HOSPITAL	RWA02

North Trent Cancer Network	N08
CHESTERFIELD ROYAL HOSPITAL	RFSDA
ROYAL HALLAMSHIRE HOSPITAL	RHQHH
NORTHERN GENERAL HOSPITAL	RHQNG
BARNESLEY DISTRICT GENERAL HOSPITAL	RFFAA
DONCASTER & BASSETLAW HOSPITALS NHS FOUNDATION TRUST	RP500
THE ROTHERHAM NHS FOUNDATION TRUST	RFR
WESTON PARK HOSPITAL	RHQWP

Organisation name**Org Code**

Northwest Midlands Cancer Network	N09
STAFFORDSHIRE GENERAL HOSPITAL	RJD01 *
SHREWSBURY & TELFORD HOSPITALS NHS TRUST	RXW00
NORTH STAFFORDSHIRE ROYAL INFIRMARY	RJE01

Black Country Cancer Network	N10
MANOR HOSPITAL	RBK02
RUSSELLS HALL HOSPITAL	RNA01
THE ROYAL WOLVERHAMPTON HOSPITALS NHS TRUST	RL4

Pan Birmingham Cancer Network	N11
GOOD HOPE HOSPITAL	RJH01
QUEEN ELIZABETH HOSPITAL	RRK02
SANDWELL GENERAL HOSPITAL	RXK01
HEART OF ENGLAND FOUNDATION NHS TRUST	RR1
SELLY OAK HOSPITAL (ACUTE)	RRK03

Arden Cancer Network	N12
WARWICK HOSPITAL	RJC02
WALSGRAVE HOSPITAL	RKB01
COVENTRY & WARWICKSHIRE HOSPITAL	RKB02
HOSPITAL OF ST CROSS	RKB03
ALEXANDRA HOSPITAL REDDICH	RWP
GEORGE ELIOTT HOSPITAL NHS TRUST	RLT

Mid Trent Cancer Network	N13
KINGS MILL HOSPITAL	RK5BC
LINCOLN COUNTY HOSPITAL	RWDDA
NOTTINGHAM CITY HOSPITAL NHS TRUST	RCS
QUEENS MEDICAL CENTRE, NOTTINGHAM HOSPITAL NHS TRUST	RFK
UNITED LINCS HOSPITALS NHS TRUST - GRANTHAM HOSPITAL	RWDLP
UNITED LINCS HOSPITALS NHS TRUST - BOSTON PILGRIM HOSPITAL	RWDLA

Derby / Burton Cancer Network	N14
DERBY ROYAL INFIRMARY	RTGFA
QUEEN'S HOSPITAL BURTON UPON TRENT	RJF02
THE CHEST CLINIC (GREEN LANE)	RTGFC
DERBY CITY GENERAL HOSPITAL	RTGFG
BURTON HOSPITALS NHS TRUST	RJF00

Leicestershire Northampton & Rutland Cancer Network	N15
NORTHAMPTON GENERAL HOSPITAL (ACUTE)	RNS01
GLENFIELD HOSPITAL	RWEAE
KETTERING GENERAL HOSPITAL NHS TRUST	RNQ

Norfolk & Waveney Cancer Network	N16
NORFOLK & NORWICH UNIVERSITY HOSPITAL NHS TRUST	RM1
JAMES PAGET HEALTHCARE NHS TRUST	RGP75

Organisation name
Org Code

West Anglia Cancer Network	N17
WEST SUFFOLK HOSPITAL	RGR50
PAPWORTH HOSPITAL	RGM21
HITCHINGBROOKE HEALTHCARE NHS TRUST	RQQ
PETERBOROUGH AND STAMFORD HOSPITALS NHS FOUNDATION TRUST	RGN
THE QUEEN ELIZABETH HOSPITAL KING'S LYNN NHS TRUST	RCX
CAMBRIDGE UNIVERSITY HOSPITALS NHS FOUNDATION TRUST	RGT
BEDFORD HOSPITALS NHS TRUST	RC1

Mid Anglia Cancer Network	N18
COLCHESTER GENERAL HOSPITAL	RDEE4
THE IPSWICH HOSPITAL NHS TRUST	RGQ02
MID ESSEX HOSPITAL SERVICES NHS TRUST	RQ8

South Essex Cancer Network	N19
SOUTHEND HOSPITAL	RAJ01
BASILDON AND THURROCK UNIVERSITY HOSPITALS NHS FOUNDATION	RDD00

Mount Vernon Cancer Network	N20
LUTON & DUNSTABLE HOSPITAL	RC971
WEST HERTFORDSHIRE HOSPITALS NHS TRUST	RWG
EAST & NORTH HERTFORDSHIRE NHS TRUST	RWH
NORTH WEST LONDON NHS TRUST	RV8

West London Cancer Network	N21
CHARING CROSS HOSPITAL	RQN01
ROYAL BROMPTON & HAREFIELD NHS TRUST NHS	RT3
CHELSEA & WESTMINSTER HEALTHCARE NHS TRUST	RQM
ST MARY'S NHS TRUST	RJ5
EALING HOSPITAL NHS TRUST	RC3
WEST MIDDLESEX UNIVERSITY HOSPITAL NHS TRUST	RFW
THE HILLINGDON HOSPITAL NHS TRUST	RAS
NORTH WEST LONDON NHS TRUST	RV8

North London Cancer Network	N22
THE WHITTINGTON HOSPITAL	RKEQ4
THE PRINCESS ALEXANDRA HOSPITAL NHS TRUST	RQW00
UNIVERSITY COLLEGE LONDON HOSPITALS NHS FOUNDATION TRUST	RRV00
ROYAL FREE HAMPSTEAD NHS TRUST	RAL
NORTH MIDDLESEX UNIVERSITY HOSPITAL NHS TRUST	RAP
BARNET & CHASE FARM HOSPITALS NHS TRUST	RVL

North East London Cancer Network	N23
BARTS AND THE LONDON NHS TRUST	RNJ00
KING GEORGE HOSPITAL	RF4KG
NEWHAM UNIVERSITY HOSPITAL NHS TRUST	RNH
HOMERTON UNIVERSITY HOSPITAL NHS FOUNDATION Trust	RQX
WHIPPS CROSS UNIVERSITY HOSPITAL NHS TRUST	RGC

Organisation name
Org Code

South East London Cancer Network	N24
KING'S COLLEGE HOSPITAL (DENMARK HILL)	RJZ01
GUY'S AND ST THOMAS' NHS TRUST	RJ100
UNIVERSITY HOSPITAL LEWISHAM	RJ224
BROMLEY HOSPITALS NHS TRUST	RG301
QUEEN ELIZABETH HOSPITAL	RG222
QUEEN MARY'S HOSPITAL	RGZ01

South West London Cancer Network	N25
THE ROYAL MARSDEN HOSPITAL (LONDON)	RPY01 *
THE ROYAL MARSDEN HOSPITAL (SURREY)	RPY02 *
ST GEORGES HEALTHCARE NHS TRUST	RJ700
KINGSTON HOSPITAL NHS TRUST	RAX
MAYDAY HEALTHCARE NHS TRUST	RJ6
EPSOM & ST HELIER UNIVERSITY HOSPITALS NHS TRUST	RVR

Peninsula Cancer Network	N26
ROYAL DEVON & EXETER HOSPITAL (WONFORD)	RH801
TORBAY DISTRICT GENERAL HOSPITAL	RA901
NORTH DEVON DISTRICT HOSPITAL	RBZ12
ROYAL CORNWALL HOSPITAL (TRELISKE)	REF12
PLYMOUTH HOSPITALS NHS TRUST	RK9

Dorset Cancer Network	N27
POOLE GENERAL HOSPITAL	RD300
ROYAL BOURNEMOUTH AND CHRISTCHURCH NHS TRUST	RDZ00
DORSET COUNTY HOSPITAL	RBD01
ROYAL BOURNEMOUTH GENERAL HOSPITAL	RDZ20

Avon Somerset & Wiltshire Cancer Network	N28
THE GREAT WESTERN HOSPITAL	RN325
YEOVIL DISTRICT HOSPITAL	RA430
SOUTHMEAD HOSPITAL	RVJ01
FRENCHAY HOSPITAL	RVJ20
BRISTOL ROYAL INFIRMARY	RA701
ROYAL UNITED HOSPITAL BATH NHS TRUST	RD130
WESTON AREA HEALTH NHS TRUST	RA301
BRISTOL HAEMATOLOGY & ONCOLOGY CENTRE	RA710
TAUNTON & SOMERSET NHS TRUST	RBA

3 Counties Cancer Network	N29
HEREFORD COUNTY HOSPITAL	RLQ01
WORCESTERSHIRE ROYAL HOSPITAL	RWP50
CHELTENHAM GENERAL HOSPITAL	RTE01
GLOUCESTERSHIRE ROYAL HOSPITAL	RTE03
CIRENCESTER HOSPITAL	RTE23

Organisation name**Org Code**

Thames Valley Cancer Network	N30
CHURCHILL HOSPITAL	RTH02
HEATHERWOOD AND WEXHAM PARK HOSPITALS NHS TRUST	RD700
MILTON KEYNES GENERAL HOSPITAL	RD816
ROYAL BERKSHIRE & BATTLE HOSPITALS NHS TRUST	RHW
JOHN RADCLIFFE HOSPITAL	RTH
WYCOMBE HOSPITAL	RXQ
BUCKINGHAMSHIRE HOSPITALS NHS TRUST	RXQ

Central South Coast Cancer Network	N31
NORTH HAMPSHIRE HOSPITAL	RN506
ST RICHARD'S HOSPITAL	RPR01
SALISBURY DISTRICT HOSPITAL	RNZ02
SOUTHAMPTON GENERAL HOSPITAL	RHM01
ST MARY'S HOSPITAL	RR201
PORTSMOUTH HOSPITAL NHS TRUST	RHU
WINCHESTER & EASTLEIGH HEALTHCARE NHS TRUST	RN1

Surrey, West Sussex & Hampshire Cancer Network	N32
ROYAL SURREY COUNTY HOSPITAL	RA201
SURREY & SUSSEX HEALTHCARE NHS TRUST	RTP
FRIMLEY PARK HOSPITAL NHS FOUNDATION TRUST	RDU
ASHFORD & ST. PETER'S HEALTHCARE NHS TRUST	RTK

Sussex Cancer Network	N33
WORTHING HOSPITAL	RPL04
ROYAL SUSSEX COUNTY HOSPITAL	RXH01
BRIGHTON GENERAL HOSPITAL	RXH05
PRINCESS ROYAL HOSPITAL	RXH09
HURSTWOOD PARK NEUROSCIENCES CENTRE	RXH10
CONQUEST HOSPITAL	RXC01
EASTBOURNE DISTRICT GENERAL HOSPITAL	RXC02
ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN	RXH06

Kent & Medway Cancer Network	N34
MAIDSTONE & TUNBRIDGE WELLS NHS TRUST	RWF
EAST KENT HOSPITALS NHS TRUST	RVV
MEDWAY NHS TRUST	RPA
DARTFORD AND GRAVESEND NHS TRUST	RN7

Data completeness

Data completeness should be 90% or above for each of the data fields used to monitor completeness.

For 2005 the field completeness levels were measured four months after the data recorded in the 'date first seen' field. Close monitoring is showing that levels of completeness, particularly for treatment fields, are still rising beyond this point. It is likely that for 2006, figures will be produced six months after submission to allow for this, thus enabling the publication of an annual report six months after the last recorded 'data first seen' value. The results illustrate what the best performing hospitals can achieve and have been taken into account in setting the targets for field completeness for 2006/2007.

Table 2 shows:

- the number of cases submitted to LUCADA by place first seen
- % completeness for each of seven significant data fields, including the three key fields entered locally on which risk-adjustment will be based.

Note:

- hospitals included are those where 15 or more cases were submitted during the nine months ending 30th September 2005
- % completeness was measured at the end of January 2006
- in these analyses a data field coded as 'not known' was counted as complete
- because each case is recorded by place first seen, tertiary centres are under-represented in this analysis
- sites not yet participating in the audit (ie, not submitting data) may still be represented in this analysis if their data has been submitted by another hospital. For example, a tertiary centre may enter the entire patient journey data, including the hospital of place first seen even if this hospital is not participating
- 1688 cases of lung cancer recorded on LUCADA were excluded from the data analysis because no place or date first seen was recorded. Of these, 1455 had a 2005 date recorded in at least one field within the care pathway and therefore probably had a date first seen within 2005. However the remaining 233 cases did not have any date entered within the care pathway and may have been seen any time since the initiation of the audit in 2004.

Table 2: Field completeness

Network	Hospital	Code	n	% Co-morbidity Completeness	% Date of Diagnosis Completeness	% Histological Completeness	% MDT recorded	% Performance Status Completeness	% Pre-treatment Staging Completeness	% Treatment recorded
ALL ORGS	ALL ORGS	ALL ORGS	5431	69	95	78	90	65	53	61
N01	Lancashire & South Cumbria Cancer Network									
N02	Greater Manchester & Cheshire Cancer Network									
	MACCLESFIELD DISTRICT GENERAL HOSPITAL	RJN71	71	48	45	49	97	65	52	18
	WYTHENSHAW HOSPITAL	RM202	24	96	100	96	100	100	83	58
	THE ROYAL BOLTON HOSPITAL	RMC00	18	100	100	11	100	100	94	100
	ROYAL ALBERT EDWARD INFIRMARY	RRF02	86	44	77	87	95	71	70	4
	FAIRFIELD GENERAL HOSPITAL	RW601	71	100	100	31	100	100	37	34
	NORTH MANCHESTER GENERAL HOSPITAL	RW602	70	100	100	100	100	100	97	13
	ROYAL OLDHAM HOSPITAL	RW603	105	100	99	91	100	100	20	37
	ROCHDALE HOSPITAL	RW604	25	100	80	64	100	100	36	12
	STOCKPORT NHS FOUNDATION TRUST	RWJ01	80	88	99	94	91	65	84	19
N03	Merseyside & Cheshire Cancer Network									
	WHISTON HOSPITAL	RBN01	43	100	100	61	100	100	49	81
	98145.4	98145.4	97	96	100	97	97	61	41	68
	UNIVERSITY HOSPITAL AINTREE	REM21	155	99	100	99	100	99	27	53
	THE ROYAL LIVERPOOL UNIVERSITY HOSPITAL	RQ617	44	96	100	100	91	75	66	61
	SOUTHPORT & FORMBY DISTRICT GENERAL HOSPITAL	RVY01	24	100	100	100	100	100	71	79
	ORMSKIRK & DISTRICT GENERAL HOSPITAL	RVY02	20	100	100	100	100	100	75	90
N04	Northern Cancer Network									
	SOUTH TYNESIDE DISTRICT GENERAL HOSPITAL	RE9GA	32	28	100	100	97	19	50	94
	SUNDERLAND ROYAL HOSPITAL	RLNGL	26	96	96	85	100	92	58	85
	FREEMAN HOSPITAL	RTD01	23	0	100	96	100	91	70	100
	THE ROYAL VICTORIA INFIRMARY	RTD02	30	7	100	100	100	90	83	97
N05	Teeside Durham & N Yorkshire Cancer Network									
	THE JAMES COOK UNIVERSITY HOSPITAL	RTRAT	32	56	84	75	97	72	0	72
	UNIVERSITY HOSPITAL OF NORTH TEES	RVWAE	25	40	60	52	96	36	24	84
	BISHOP AUCKLAND GENERAL HOSPITAL	RXPBA	29	0	90	90	100	7	21	93
	DARLINGTON MEMORIAL HOSPITAL	RXPDA	29	0	83	79	97	3	21	83

Network	Hospital	Code	n	% Co-morbidity Completeness	% Date of Diagnosis Completeness	% Histological Completeness	% MDT recorded	% Performance Status Completeness	% Pre-treatment Staging Completeness	% Treatment recorded
N06	Yorkshire Cancer Network									
	BRADFORD ROYAL INFIRMARY	RAE01	145	99	99	99	99	95	88	86
	YORK HOSPITAL	RCB55	81	78	99	93	99	90	83	94
	HARROGATE AND DISTRICT FOUNDATION NHS TRUST	RCD00	76	97	93	91	95	96	92	68
	AIREDALE NHS TRUST	RCF00	45	29	60	100	98	51	82	100
	LEEDS GENERAL INFIRMARY	RR801	84	6	100	7	7	6	7	6
	COOKRIDGE HOSPITAL	RR803	30	17	100	40	43	37	30	27
	ST JAMES'S UNIVERSITY HOSPITAL	RR813	50	0	100	0	0	0	0	0
	LEEDS CHEST CLINIC	RR898	67	0	100	0	0	0	0	0
	HUDDERSFIELD ROYAL INFIRMARY	RWY01	102	7	99	95	95	31	47	75
	CALDERDALE ROYAL HOSPITAL	RWY02	77	7	96	99	95	33	31	71
N07	Humber & Yorkshire Coast Cancer Network									
	DIANA, PRINCESS OF WALES HOSPITAL	RJL30	42	10	98	98	95	33	10	95
	SCUNTHORPE GENERAL HOSPITAL	RJL32	52	33	92	77	100	44	27	71
	HULL ROYAL INFIRMARY	RWA01	63	100	100	94	100	100	92	89
	CASTLE HILL HOSPITAL	RWA16	125	100	100	99	100	100	90	98
N08	North Trent Cancer Network									
	BARNESLEY DISTRICT GENERAL HOSPITAL	RFFAA	17	100	94	82	94	100	71	47
	ROYAL HALLAMSHIRE HOSPITAL	RHQHH	34	0	100	94	79	65	47	41
	NORTHERN GENERAL HOSPITAL	RHQNG	149	34	100	99	79	19	81	52
	BASSETLAW HOSPITAL	RP5BA	19	95	100	95	95	90	79	26
	DONCASTER ROYAL INFIRMARY	RP5DR	126	94	98	91	96	83	89	24
N09	Northwest Midlands Cancer Network									
	NORTH STAFFORDSHIRE ROYAL INFIRMARY	RJE01	70	67	100	100	99	83	83	86
N10	Black Country Cancer Network									
	MANOR HOSPITAL	RBK02	101	89	100	95	100	79	77	82
N11	Pan Birmingham Cancer Network									
	GOOD HOPE HOSPITAL	RJH01	19	79	90	90	90	79	63	74
	SANDWELL GENERAL HOSPITAL	RXK01	81	15	91	85	85	32	11	38
	CITY HOSPITAL BIRMINGHAM	RXK02	84	0	99	86	81	5	1	45
N12	Arden Cancer Network									
	WARWICK HOSPITAL	RJC02	45	29	82	24	76	56	7	0
	WALSGRAVE HOSPITAL	RKB01	35	3	71	23	91	37	31	20
	COVENTRY & WARWICKSHIRE HOSPITAL	RKB02	38	3	84	32	100	55	18	18
N13	Mid Trent Cancer Network									
	KINGS MILL HOSPITAL	RK5BC	69	99	99	96	100	97	100	74
	PILGRIM HOSPITAL	RWDLA	24	96	100	96	100	96	100	71

Network	Hospital	Code	n	% Co-morbidity Completeness	% Date of Diagnosis Completeness	% Histological Completeness	% MDT recorded	% Performance Status Completeness	% Pre-treatment Staging Completeness	% Treatment recorded
N14	Derby / Burton Cancer Network									
	QUEEN'S HOSPITAL BURTON UPON TRENT	RJF02	73	96	100	99	100	89	97	75
N15	Leicestershire Northampton & Rutland Cancer Network									
	GLENFIELD HOSPITAL	RWEAE	145	99	100	94	98	83	73	68
N16	Norfolk & Waverney Cancer Network									
N17	West Anglia Cancer Network									
	PETERBOROUGH AND STAMFORD HOSPITALS NHS FOUNDATION TRUST	RGN42	17	18	88	82	94	59	77	12
	WEST SUFFOLK HOSPITAL	RGR50	52	39	94	90	89	33	60	10
	CAMBRIDGE UNIVERSITY HOSPITALS NHS FOUNDATION TRUST	RGT01	37	24	87	89	89	51	78	16
	HITCHINGBROOKE HOSPITAL	RQQ31	21	19	91	91	95	86	76	10
N18	Mid Anglia Cancer Network									
	CLACTON & DISTRICT HOSPITAL	RDEE2	18	94	100	100	100	100	89	56
	COLCHESTER GENERAL HOSPITAL	RDEE4	84	95	99	98	99	98	89	58
	ESSEX COUNTY HOSPITAL	RDEEB	27	96	100	100	96	96	100	70
	THE IPSWICH HOSPITAL NHS TRUST	RGQ02	68	90	96	91	96	88	91	96
N19	South Essex Cancer Network									
	SOUTHEND HOSPITAL	RAJ01	17	71	88	88	100	59	53	77
	BASILDON HOSPITAL	RDDH0	127	55	85	63	76	61	46	72
N20	Mount Vernon Cancer Network									
N21	West London Cancer Network									
N22	North London Cancer Network									
	THE WHITTINGTON HOSPITAL	RKEQ4	58	98	100	90	100	98	88	90
N23	North East London Cancer Network									
	BARTS AND THE LONDON NHS TRUST	RNJ00	62	100	97	98	100	100	71	77
N24	South East London Cancer Network									
	BROMLEY HOSPITALS NHS TRUST	RG301	67	97	100	97	100	97	91	69
	PRINCESS ROYAL UNIVERSITY HOSPITAL	RG303	20	95	90	95	100	95	95	50
	GUY'S AND ST THOMAS' NHS TRUST	RJ100	21	0	0	0	100	0	0	100
	KING'S COLLEGE HOSPITAL (DENMARK HILL)	RJZ01	72	100	100	72	100	100	96	40
N25	South West London Cancer Network									

Network	Hospital	Code	n	% Co-morbidity Completeness	% Date of Diagnosis Completeness	% Histological Completeness	% MDT recorded	% Performance Status Completeness	% Pre-treatment Staging Completeness	% Treatment recorded
N26	Peninsula Cancer Network									
	NORTH DEVON DISTRICT HOSPITAL	RBZ12	77	100	100	71	87	52	36	65
	ROYAL CORNWALL HOSPITAL (TRELISKE)	REF12	93	100	100	63	61	16	3	89
	ROYAL DEVON & EXETER HOSPITAL (WONFORD)	RH801	41	66	100	100	83	29	71	88
N27	Dorset Cancer Network									
	DORSET COUNTY HOSPITAL	RBD01	71	92	100	94	99	96	58	94
	POOLE GENERAL HOSPITAL	RD300	45	76	98	89	98	73	42	100
	ROYAL BOURNEMOUTH AND CHRISTCHURCH NHS TRUST	RDZ00	167	100	100	55	100	96	66	90
N28	Avon Somerset & Wiltshire Cancer Network									
	WESTON GENERAL HOSPITAL	RA301	64	100	100	6	94	0	0	73
	YEOVIL DISTRICT HOSPITAL	RA430	22	100	100	91	64	14	5	50
	ROYAL UNITED HOSPITAL	RD130	53	100	100	60	94	0	32	55
	THE GREAT WESTERN HOSPITAL	RN325	70	100	100	99	96	0	11	83
	SOUTHMEAD HOSPITAL	RVJ01	48	58	100	85	83	10	6	54
	FRENCHAY HOSPITAL	RVJ20	66	58	100	68	83	14	18	56
N29	3 Counties Cancer Network									
	HEREFORD COUNTY HOSPITAL	RLQ01	48	100	100	92	100	100	21	35
N30	Thames Valley Cancer Network									
	HEATHERWOOD AND WEXHAM PARK HOSPITALS NHS TRUST	RD700	54	0	100	20	94	74	0	52
	MILTON KEYNES GENERAL HOSPITAL	RD816	61	41	97	51	89	3	28	72
N31	Central South Coast Cancer Network									
	NORTH HAMPSHIRE HOSPITAL	RN506	19	95	100	95	100	95	90	79
N32	Surrey, West Sussex & Hampshire Cancer Network									
N33	Sussex Cancer Network									
	WORTHING HOSPITAL	RPL04	32	100	100	41	100	100	0	84
N34	Kent & Medway Cancer Network									

Monitoring of data completeness in 2006

The completeness of LUCADA data needs to be measured in terms of:

- proportion of hospitals in a network that are participating
- proportion of cases expected from a hospital annually that were actually submitted
- proportion of cases in which key fields were completed.

The number of hospitals in each network participating in LUCADA will continue to be monitored monthly throughout 2006. It is intended that by the end of 2006 all eligible hospitals will be participating.

Information has been obtained from the Cancer Registries about the number of cases of lung cancer expected from each hospital as it is essential that the audit includes all cases of lung cancer. Once hospitals start to collect data, the number of cases expected annually is agreed with them. It is hoped that by the end of 2006 all hospitals will have agreed their number of expected cases and that quarterly monitoring of actual against expected numbers will have started.

The monitoring of the completeness of individual or groups of fields will continue to focus on the data required to produce risk adjusted analyses. As well as the current completeness monitoring, future monitoring during 2006 will have a second report which excludes those records coded as 'not known' from the completeness total.

Risk-adjustment

The data items on which risk-adjustment will be based are:

- age (populated by Open Exeter)
- sex (populated by Open Exeter)
- social deprivation (indicator calculated from post code)
- stage of cancer (data submitted by hospital)
- performance status (data submitted by hospital)
- presence of a co-morbidity causing first choice treatment not to be given (data submitted by hospital).

The first three of these are populated automatically from Open Exeter on entry of the NHS number.

To enable risk-adjustment of the data, a level of 67% data completeness will be the minimum expected for all participating hospitals for this second report for the following items:

- stage of cancer
- performance status
- presence of a co-morbidity.

This level of completeness is based on experience to date and is considered to be readily achievable.

7. REPORTS AND ANALYSES FROM LUCADA

Local reports

LUCADA contains a built-in online reports package. There are four sets of high level reports and each of them allows the selection of individual reports within the standard package. The sets comprise:

- headline reports
- standard reports
- treatment reports
- operational reports.

The standard reports are further divided into:

- demography and case-mix
- diagnostic and staging
- outcomes and clinical trials.

Headline reports

Five key performance indicators, called headline reports, have been developed:

- % of patients for whom there is a histological and/or cytological diagnosis
- % of patients who have been reviewed by a MDT
- % of patients who undergo surgical resection
- % of patients who have any active anti-cancer treatment
- number of cases recorded by place first seen as a proportion of the estimated lung cancer population served.

The first four of the headline reports are available online and local hospital performance can be compared against a national mean of all the participating centres. However, the national headline indicators are currently difficult to interpret, especially where either a tertiary cancer centre or a cancer unit has not submitted the data relating to its part of the patient pathway; some major cancer centres have yet to submit data to the audit.

For the 5137 cases submitted during the first nine months of 2005, with the indicators measured in January 2006, the results were:

- 64% of patients had a histological and/or cytological diagnosis
- 81% of patients had been reviewed by a MDT
- 8% had undergone surgical resection
- 39% had had active anti-cancer treatment.

These results are in broadly in line with other published and unpublished data about lung cancer practice in the UK.

The proportion of the total estimated population of cases of lung cancer actually being entered onto the system is not yet available online. Although estimates of expected case numbers have been supplied by the Cancer Registries, it is only when most hospitals within a network have started collecting data that agreement is sought about the target number for each hospital. Currently, expected numbers have been agreed for 60 hospitals.

Risk-adjustment

One of the major reasons for developing national clinical audits is the opportunity that they provide to produce risk-adjusted information. Unadjusted and adjusted proportions of the patients first seen at each hospital can be calculated for each outcome indicator.

Unadjusted proportions could be misleading if the populations seen in hospitals differ. For example, patients with advanced stage lung cancer would not be suitable for potentially curative treatments and those with more co-morbidities or a poor performance status would not tolerate aggressive treatment so well as those with a better performance status. So, a hospital which has a higher proportion of patients with advanced stage disease or with significant co-morbidities would not be expected to treat as many patients treated aggressively. A simple, unadjusted comparison would ignore such differences in patient characteristics. However, by adjusting for casemix variables in the analysis (using logistic regression), the differences between hospitals can be examined after taking into account the inter-hospital variation in individual patients. This method also allows the relationship between the casemix variables and outcomes to be assessed.

The casemix variables to be considered for inclusion in the analyses are:

- age
- sex
- social deprivation indicator calculated from post code
- stage of cancer
- performance status
- presence of a co-morbidity causing first choice treatment not to be given.

The LUCADA Information Group, is working to identify the degree of risk adjustment which is appropriate for each indicator. Four models in particular are being investigated, namely adjustment for:

- sex and age
- sex, age and social deprivation
- sex, age, social deprivation and stage
- sex, age, stage, performance status and co-morbidity.

Detailed analyses of the 2005 data will be published in autumn 2006. The first risk-adjusted data, showing the comparative performance of those hospitals which have produced data of sufficient quality to be included in the analyses, will be contained in the annual report on 2006 data, to be published in 2007.

8. USE OF INFORMATION ABOUT AND FROM LUCADA

Local use of audit data

A national audit supports good clinical practice by informing clinicians of the standard of their care compared with the rest of in the country. LUCADA facilitates this for lung cancer, allowing users to benchmark their centre against national performance.

The local reporting tools in LUCADA allow analysis of the patient journey to be studied, showing times between referral and important milestones such as date of diagnosis and time to first treatment. It is possible to check the proportion of cases discussed at MDT or the proportion of patients managed with a clinical diagnosis only. The number and proportion receiving different modalities of treatment including surgery, chemotherapy or palliative care, can be reviewed. All of this information is helpful in informing local practice and in planning services. Regular review of the data allows monitoring of performance and the early identification of problems in delivery of care.

National use of audit data

At a national level, information about and from LUCADA will be used:

- to contribute to the Healthcare Commission's Annual Health Check
- to monitor implementation of the guideline for the diagnosis and treatment of lung cancer published in 2005 by the National Institute of Clinical Excellence (NICE)
- to support the peer review of cancer services.

Annual Health Check

The Healthcare Commission will be using information from the audit in order to assess compliance of trusts with Better Health Standard C5 which relates to the need for practitioners to be involved in clinical audit. Initially, the data provided will relate to information about participation in the audit and about the completeness of audit data fields. Discussions are taking place about the mechanism for assessing the degree of 'participation' in the national audit by individual trusts. Measures are being developed for use in the Annual Health Check, which will enable an assessment of early indicators of standards of care, using audit data.

National Institute of Clinical Excellence

NICE published its clinical guideline 24 about the diagnosis and treatment of lung cancer in February 2005. In section 3.3 on audit it is noted that:

- many of the recommendations in the guideline are auditable through use of LUCADA
- all English cancer networks are being encouraged to take part in LUCADA.

The NICE guideline also contains audit criteria for the recommendations selected as key priorities for implementation. Two of these are collectable in LUCADA now, but further development of the audit will include other measurable NICE recommendations including the provision of CHART Radiotherapy and access to PET scanning.

There are several other standards and recommendations within the body of the guidance which can be assessed by LUCADA. One example is the proportion of patients with small cell lung cancer receiving chemotherapy.

Cancer Peer Review

Cancer peer review seeks to raise standards of care nationally and proposes a set of minimum standards and measures to which all cancer centres should adhere. Participation in LUCADA is expected in the current peer review standards and can contribute significantly to the requirement to undertake network wide audit, being concerned with clinical performance and the audit is complementary to peer review which is primarily concerned with infrastructure and process. The audit will influence the next round of peer review and discussions with the Cancer Peer Review Team will explore the best way of including outcomes from the audit.

The specific cancer standard references to which this audit is relevant are:

- 1C-110 (Network measures) The Network should have an agreed Minimum Data Set and this should include the data items required for NCASP audits
- 1C-112 (Network measures) The NSSG should agree at least one network audit project
- 2C-143 (MDT measures) The Minimum Dataset collected by an MDT should include the data items required for NCASP audits
- 2C-144 (MDT measures) The MDT should have started to record the Minimum Data Set or their portion of it for each patient on proformas and/or in an electronically retrievable form.

Public and Patients

There is an ongoing programme of national cancer patient surveys commissioned by the Audit Commission. In future it should be possible to correlate performance and outcomes for lung cancer patients, as assessed by the LUCADA programme, with the patients' own perception of the standards of their care from these surveys. It is expected that the audit data will be correlated with activity, performance and outcomes data from the peer review process.

When risk-adjusted comparative data is publicly available it will provide the basis for informed patient choice.

The audit team will be consulting with patients on the nature of the audit itself and on the means by which patients should have an on-going input.

9. CONCLUSION

The levels of participation in the audit achieved by the Cancer Networks and their participating Trusts was good, considering the huge demand on local lung cancer service resources and, particularly, the requirements arising from the reporting on cancer waiting times.

The audit provides a specific contribution to other national initiatives including the Annual Health Check and Cancer Peer Review.

Major progress was made in the development and introduction of the National Lung Cancer Audit with a high level of up-take amongst the hospitals involved in the care of lung cancer patients. The information which will be derived from the audit data will enable appropriate comparison of service providers across a number of measures together with the development and dissemination of good practice guidelines and standards, resulting in improvement in lung cancer care.

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Healthcare Commission

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