Society for Cardiothoracic Surgery in Great Britain and Ireland

Royal College of Physicians | National Lung Cancer Audit

National Lung Cancer Audit
Lung Cancer Clinical Outcomes Publication (LCCOP) 2021

Published March 2021

The LCCOP audit is a national audit of outcomes following the surgical resection of lung cancer in the English NHS. It is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and produced by the National Lung Cancer Audit (NLCA) team at the Royal College of Physicians (RCP), in partnership with the Society for Cardiothoracic Surgery (SCTS).

Data for LCCOP is based on patient-level information collected by the NHS, as part of the care and support of cancer patients. The data is collated, maintained and quality assured by the National Cancer Registration and Analysis Service (NCRAS) at Public Health England.

HQIP sets out expectations for national clinical audits in its 2020 document "Identification and management of outliers for National Clinical Audits: guidance for English data"*. The outlier management and support processes set out here have been developed with reference to this document.

This policy outlines:

- how the NLCA and SCTS identify poor performance
- the notification procedure for outlying units
- advice to outlier units from the NLCA and SCTS
- how trusts and surgeons should respond to an outlier notification
- the sources of support available both within the SCTS and elsewhere for individuals and organisations involved.

Identifying poor performance

Benchmarking in the LCCOP is based on headline indicators which are important measures of the overall quality of care. These indicators are reviewed and set annually by the LCCOP team with the guidance of additional clinical experts that make up the NLCA Clinical Reference Group. Data submitted to the LCCOP are analysed by a team at the University of Nottingham with appropriate statistical expertise and experience.

Raw proportions are used to benchmark against a median value or value based on clinical opinion within the project team.

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* Identification and management of outliers for National Clinical Audits: guidance for English data HQIP, May 2020. Available via https://www.hqip.org.uk/outlier-management-for-national-clinical-audits/ last accessed 17 February 2021

The LCCOP audit reports several outcomes at unit level. The two survival outcomes alone will be analysed for outliers: unit level survival at 30 and 365 days after resection of primary lung cancer. These are analysed as adjusted unit odds ratios for mortality, compared to the pooled national data for that year. After local validation, survival outcomes are adjusted for demographic variables available in the Cancer Services and Outcomes Dataset (COSD) and Hospital Episode Statistics (HES) databases. This two-outcome design means that outlying (both positive and negative) occurs more frequently than would be expected with a single-outcome design.

Methodology for identifying outliers

Identification of outliers is undertaken by the NLCA team and their analytical team at the University of Nottingham. The survival outcome measure used is the adjusted odds ratio (OR) for survival, which is compared to the national data for that year. Further details on the methodology used are available in previous LCCOP reports and in the LCCOP methodology reports[†].

A unit is identified as an outlier if the adjusted OR is outside 99.8% confidence intervals of the national mean) in one of the outcomes reported (30 day and 365-day survival). The process for analysing the data will be double-checked and signed off by the senior analyst at the University of Nottingham and senior NLCA clinical lead.

A unit may be identified as an outlier with an alert-level status (when the adjusted odds ratio is outside 95% confidence intervals for the national mean). Alert-level outlying can be a valuable information point for a unit, allowing services to be reviewed or improved before alarm-level outlying occurs. However, a formal outlier notification process is not mandated.

Data validation

The NLCA team collects data on lung cancer surgical activity in English NHS hospitals from the NCRAS cancer registration database, which includes COSD and HES data. Cases are allocated to the trust of surgery. This data is sent to local SCTS audit leads for case validation. This process is important for improving the quality of the data reported in the LCCOP and ensures that the identification of outliers is correct. Both the team at NCRAS and the SCTS encourage all units to validate their data. Updating the SCTS thoracic audit lead and LCCOP data team (lccop.data@nhs.net) with the current email contacts for your unit SCTS audit lead, data manager and clinical lead, or clinical director, helps ensure that your data is sent to the correct person.

Units who do not validate their data may have this recorded publicly in published audit reports and the NLCA team or the SCTS may contact the trust medical directors of non-validating units to highlight this fact.

Notification procedure for outlying units

When a unit has been identified as having an 'alarm'-level status, a letter will be written by the SCTS and NLCA clinical lead and sent to the clinical lead and SCTS audit lead of that unit. It will identify which outcome or outcomes are alarm levels, and which are within the expected range.

An alarm notification letter will be copied to the medical director and the chief executive of the trust involved. The SCTS, on behalf of the NLCA, will notify the Care Quality Commission (CQC) and HQIP (via clinicalaudits@cqc.org.uk, copying in david.harvey@cqc.org.uk) of all alarm level outliers as set out in HQIP's guidance to audit providers. At all times, the Board of the trust retain responsibility for patient safety and the quality of care provided to patients within their trust.

[†] www.scts.org/lccop/ last accessed 17 February 2021

Units can be identified as both negative outliers, with a lower than expected survival, or as positive or “good practice” outliers, where survival is better than expected. The notification process for positive and negative outliers is identical, however positive outlier units are not obliged to perform any internal review.

Contents of the letter and advice to unit leads / trust medical directors

Outlier notification letters will include recommendations for unit leads, trusts and individual surgeons on how best to respond. In its advice to trusts, the SCTS has established four principles:

- The mechanisms for support and explanation are separate
- Negative outlying is a cause for looking at the data in more detail. It is not sufficient reason in itself for restricting a surgeon’s practices unless there are clear concerns about the safety of patients
- The mechanism is reasonable and proportionate
- Explanation proceeds in several stages
    - Analysis of the data for accuracy
    - Analysis of the case-mix being treated in the unit
    - Analysis of institutional factors that may contribute to the clinical outcomes seen

Responding to positive (good practice) outlier notifications:

An important role of the LCCOP audit is to identify outcomes that are significantly better than expected. As well as acknowledging exceptionally good results, this process can help to identify best practices, from which other units might learn.

No formal outlier response process is required, but we will notify trust CEOs, medical directors and unit clinical leads, and we encourage sharing of these results with all consultant colleagues and the wider team.

Resection rates

Maintaining high resection rates is an important part of providing a high-quality lung cancer surgery service. The LCCOP report includes estimates of resection rates at the level of surgical units, derived from the data in the NLCA annual reports.

Although resection rates are not outlier analysed, these data provide an important context for the survival outcomes achieved by individual units, and they should be considered in the internal review process. The NLCA has an audit standard that 20% of all patients clinically diagnosed with lung cancer should undergo surgical resection.

Publication of unit results

The results of the LCCOP audit are published in an annual report, available for download on the RCP website, the NLCA website and SCTS.org. They are available in searchable form on SCTS.org.

Outlier management process for alarm level negative outliers

Table 1 details the NLCA and SCTS step by step process to identify and manage alarm level negative outliers. More guidance on how the trust can investigate and manage an outlier notification can be found in appendix 1.

Table 1

Date	Action	Responsibility
08/03/21 – 12/03/21 5 working days	Units having been identified as a potential outlier will be notified through their surgical lead (copied to the trust MD and CEO). Surgical leads will be sent a summary of their results and a copy of the LCCOP outlier policy. Surgical lead must acknowledge the notification within 5 working days. They will be asked to identify any data errors or justifiable explanations. He/she may request a copy of their patient level data via the NCRAS.	SCTS on behalf of NLCA Unit surgical lead
15/03/21 – 13/04/21 20 working days	Deadline for initial response from unit surgical lead to the NLCA. The surgical lead will need to determine whether there is a 'case to answer' or 'no case to answer'	Unit surgical lead
14/04/21 – 20/04/21 5 working days	NLCA team to review formal response to confirm whether there is a case for alarm status. In cases where data errors have been identified due to an error from the NLCA analysis, the organisation's 'outlier' status will be reviewed and correspondence will be managed accordingly. In cases where an organisation is responsible for data errors, the negative outlier status will be confirmed.	NLCA and SCTS clinical leads
21/04/21 – 27/04/21 5 working days	If a "case to answer" has been established, the SCTS will communicate the formal alarm level notification to the unit surgical lead by telephone. This will be done by a member of the SCTS executive or a senior office bearer. The SCTS audit lead will then coordinate a formal written notification, sent on behalf of NLCA and the SCTS to the unit surgical lead, MD and CEO. This notification is copied to the CQC[1] and HQIP[2]. SCTS to notify CQC[1], HQIP[2] and NHSI[3] of confirmed 'alarm' status.	Phone call - SCTS executive or senior office bearer. SCTS audit lead.
28/04/21 – 12/05/21 10 working days	The trust CEO will acknowledge receipt to SCTS of the written notification, confirming that a local investigation will be undertaken and copy in the CQC[1].	Trust CEO
13/05/21 – 19/05/21 5 working days	If no acknowledgement is received from the participating organisation, a reminder letter will be sent to the CEO, copied to CQC[1] and HQIP[2]. If not received within 15 working days, CQC[1] and NHSI[3] will be notified of non-compliance in consultation with HQIP[2].	NLCA
	The outlier information will be published in the LCCOP report *via* the NLCA and SCTS websites. An online spreadsheet will also be published containing more	NLCA and SCTS

	detailed data as well as identification of ***alarm***-level negative outliers.

CEO = chief executive officer; CQC = Care Quality Commission; HQIP = Healthcare Quality Improvement Partnership; MD = medical director; NCRAS = National Cancer Registry and Analysis Service; SCTS = Society for Cardiothoracic Surgery NLCA = National Lung Cancer Audit.

[1]Via clinicalaudits@cqc.org.uk and copy David.harvey@cqc.org.uk
[2]Via HQIP project manager and associate director, see the HQIP website for contact details: www.hqip.org.uk/about-us/our-team/
[3]Via nick.clarke2@nhs.net

Support for surgeons and units with outlier notifications

The SCTS and the NLCA team is keen to highlight the support available for individual surgeons and units reported as outliers within the LCCOP audit. In the LCCOP, where outlier assessment takes place at unit level, safe and competent clinicians will inevitably sometimes be involved in this process. It is vital that the actions of the SCTS, NLCA, trusts, medical directors and others support all the clinicians involved in what is often a stressful process.

The SCTS offers a mentoring and support service to any consultant surgeon involved in an alarm review within the LCCOP audit and encourages members to utilise this facility.

Individual members can request support from the SCTS by contacting the president or the honorary secretary directly. The process is outlined below:

- the member will be contacted by the president of the SCTS or a nominated deputy via a phone call and letter. This initial contact will:
  - explain the nature of the outlier process
  - offer a choice of senior officers of the SCTS to act as a friend

- a senior office holder of the SCTS will be nominated to provide personal support. This individual will:
  - offer personal support throughout the process
  - provide advice about other sources of support
  - if necessary, provide advice on the gathering of other sources of evidence to support good practice.

In addition to support from the Society, other possible sources of support are outlined in table 2.

Table 2: support available to individual consultants involved in the LCCOP outlier review

Personal support through the SCTS	Confidential listening and peer support Advice confined to area of expertise
Other sources of support	Royal College Invited Review Mechanisms British Medical Association (BMA) Defence organisations NHS Resolution Occupational Health Department General Practitioner Trust wellness or other staff support services

SCTS secretariat

Email: sctsadmin@scts.org

or by post to:
The Honorary Secretary
The Society for Cardiothoracic Surgery
The Royal College of Surgeons of England
35-43 Lincoln's Inn Fields
London
WC2A 3PE

Appendix 1
Recommended actions for responding to alarm level notifications

In addition to the actions for trusts outlined in Table 1 on page 4, the actions below are recommended.

At alarm-level units, surgical leads should take the following actions:

i. Inform all consultant surgeons in the unit of the outlier notification, and involve them in the internal review that follows.

ii. The unit clinical lead should lead a review of their data, to identify any inaccuracies. Units and trusts must satisfy themselves that local data collection and submission are robust and adequately resourced. This is particularly important if data inaccuracy is identified as the cause of outlying. Units should bear in mind that some of the data used or adjustment in the LCCOP audit is derived from a trust's HES data and assessing the accuracy of this data may be part of a trust's internal review. The NLCA team will make all relevant data and analyses available via NCRAS to the clinical lead of an outlier trust, to facilitate an effective internal trust review.

iii. If concerns remain, a more thorough internal review of the unit's practice should take place. This should include an assessment of caseload, working practices and resources within the unit. The unit and individual clinical practice should take account of relevant national guidance (particularly NICE guidance).

iv. Internal review should analyse performance and outcome at both unit and individual clinician level, using recognised risk adjustment models as specified above.

v. Other data sources should be used to gain an assessment of unit performance. These may include, amongst others, reports from the main NLCA report and the Cardiothoracic Getting it Right First Time Report, but also internal audit and evidence from consultant appraisal, multisource feedback and revalidation.

vi. Units at alarm level outlier status should consider engaging the services of the Invited Review Mechanism (IRM) of one of the UK's Royal Colleges of Surgeons. Further sources of support from the SCTS and other bodies are detailed later in this document.

vii. SCTS advises units at alarm levels to make contact with their trust communications department early, to provide support in case of media interest.

At alarm-level units, individual surgeons should take the following actions:

i. Work with their trust to complete an effective internal review as outlined above.

ii. Record their unit's alarm level outlier status (both for negative and positive or good practice outliers) in their next appraisal, together with a copy of the agreed recovery plan, with a personal reflection.

iii. Cooperate with their trust to implement an agreed recovery plan after internal review.