



Royal College
of Physicians

National Lung
Cancer Audit

Quality improvement toolkit for lung cancer services

Based on the findings of the
National Lung Cancer Audit report

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In partnership with:

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The University of
Nottingham



HQIP
Healthcare Quality
Improvement Partnership

Purpose

This toolkit has been developed with the help of the clinical reference group at the National Lung Cancer Audit (NLCA). It provides a series of steps (a checklist) against eight key areas from the NLCA annual report, which can be used by multidisciplinary teams (MDTs) and cancer managers, seeking quality improvement in their lung cancer service.

How to use this toolkit

Each lung cancer MDT should review their local results in the latest annual report and use the template provided in this toolkit (or another similar document) to record their decision for a quality improvement activity.

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Improving data quality

The NLCA recommends that at least 95 % of patients with stage I–II and PS 0–1 should have PS and stage recorded, and that at least 75 % of these patients should have FEV1 and FEV1 % recorded.*

Key steps recommended by

Dr Paul Beckett, consultant respiratory physician, University Hospitals of Derby and Burton

- 1** Review your results in the NLCA annual report – even if you have met the recommended standard for data quality, is there anything you can do from the list below to make your results even better?
- 2** All MDTs should nominate a person who has an interest in and responsibility for the quality of data submitted to the audit.
- 3** Raise the profile of performance data across the wider MDT at governance meetings or by sharing data. Use the CancerStats website to review data quality in real time.
- 4** Meet with your MDT coordinator or data manager to discuss how to integrate clinical validation into the Cancer Outcomes and Services Database (COSD) submission process. This process will be iterative so that clinical input reduces over time.
- 5** Work with National Cancer Registration and Analysis Service (NCRAS) data improvement leads to understand cases missed by COSD.
- 6** Monitor your results by means of a run chart or control chart and celebrate your success within your organisation when improvements are visible.
- 7** Integrate data collection into MDT meetings by agreeing a core dataset, displayed on a screen and updated in real time.
- 8** Check that key fields (eg PS and stage) are completed prior to COSD submission.
- 9** Discuss issues with data completeness with a colleague from another organisation – you can see who is doing well by reviewing our online datasheet.

Improving pathological confirmation rates

The NLCA recommends that at least 90% of patients with PS 0–1 should receive pathological confirmation of their disease.*

Key steps recommended by

Dr Neal Navani, consultant respiratory physician, University College Hospital, London

- 1** Review your results in the NLCA annual report – even if you have met the recommended standard for pathological confirmation rate, is there anything you can do from the list below to make your results even better?
- 2** Review patients with stage I–II lung cancer and PS 0–1 who did not receive pathological confirmation to clarify reasons why and to identify emerging themes.
- 3** For patients undergoing stereotactic ablative radiotherapy (SABR) without pathological confirmation, clarify whether National Institute for Health and Care Excellence (NICE) 2019 and SABR consortium guidance on selection of patients was adhered to.
- 4** Ensure that job plans allow an interventional radiologist and a respiratory physician who carries out endobronchial ultrasound (EBUS) to be present for the whole lung cancer MDT meeting and diagnostic triage process when possible.
- 5** Ensure that clear pathways of referral to interventional radiology and bronchoscopy exist with plans in place to cover leave.
- 6** Process map the pathway from biopsy to pathology result to maximise yield and to compare compliance with the National Optimal Lung Cancer Pathway (NOLCP).
- 7** Consider whether your MDT has timely access to all diagnostic modalities, in particular computed tomography (CT)-guided biopsy and EBUS.
- 8** Collaborate with respiratory medicine, radiology and pathology colleagues to carry out a local audit of CT-guided biopsy practice and EBUS with attention to selection criteria and discuss in your operational meeting.
- 9** Review specimen handling processes with pathologists to optimise chances of a positive biopsy.

Improving access to specialist nursing

The NLCA recommends that at least 90% of lung cancer patients should get access to a lung cancer specialist nurse.*

Key steps recommended by

Julia McAdam, lead lung cancer specialist nurse, Royal Shrewsbury Hospital

- 1 Ensure all lung cancer nurse specialists (LCNSs) have knowledge in completing the dataset to ensure complete and accurate data records. Include training for all new starters to include information about different categories, eg Y1, Y3, Y4 etc.
- 2 Work proactively with other cancer nurse specialist (CNS) teams to ensure knowledge of patients is shared and contact is documented; this will reduce duplication and improve patient experience.
- 3 Consider undertaking local patient experience surveys to determine where the gaps in service are, in order to address patients' needs.
- 4 Review your results in the NLCA annual report: even if you have met the recommended standard, is there anything from the list below that can improve your service further?
- 5 Assess ratio of LCNS:patients and determine if the caseload is greater than the 1:80 ratio as recommended in the commissioning guidelines.
- 6 Consider developing a business case with support from operational managers to increase the number of LCNSs within the team to bring up to the NOLCP-recommended levels.
- 7 Ensure good communication with wider MDT to understand the importance of the role and the quality care that can be delivered by the LCNS.
- 8 Nominate LCNSs to validate data on a monthly basis with support from cancer services.
- 9 Consider reviewing job plan / weekly scheduled activity to ensure coverage of all clinical settings. Communicate with management where gaps in service are identified.
- 10 Consider introducing administrative support to the LCNS team to enable more clinical time for each nurse.

Improving surgery rates

The NLCA recommends that at least 20% of patients with NSCLC should receive surgical intervention.*

Key steps recommended by

Mr Doug West, consultant thoracic surgeon, Bristol Royal Infirmary

- 1** Review your results in the annual report – even if you have met the recommended standard for surgical resection rates, is there anything you can do from the list below to make your results even better?
- 2** Ensure that job plans and timetables allow a thoracic surgeon to attend every MDT meeting, and to be present for the whole meeting.
- 3** Carry out an audit (and consider external review) of patients with stage I–II disease who did not receive surgery, to look for emerging themes.
- 4** Work with another surgical centre to develop rapid pathways for obtaining a second opinion on suitability for surgery, and ensure it is utilised.
- 5** Review your data on usage of curative-intent radiotherapy, to determine whether this is being used in place of surgery appropriately.
- 6** Ensure that all principles of the NOLCP are implemented so that surgical assessment and treatment are not delayed. Long waits from assessment to treatment may indicate inadequate operating capacity.
- 7** Consider whether your MDT has an informal but entrenched policy of excluding older patients, or those with comorbidities. This can often be invisible to existing MDT members.
- 8** Consider developing a ‘high-risk’ surgical MDT for multidisciplinary discussion of borderline cases.
- 9** Patients with stage IIIa disease can often be offered curative-intent multimodality treatment, so ensure they are accurately staged and not deemed ‘palliative’ without full assessment.

Improving small-cell lung cancer (SCLC) treatment rates

The NLCA recommends that at least 70% of patients with SCLC should receive chemotherapy; and in at least 80% of these patients their chemotherapy is received within 14 days of diagnosis.*

Key steps recommended by

Dr Susan Harden, consultant clinical oncologist, Cambridge University Hospitals NHS Trust

- 1** Consider a multidisciplinary review of patients with stage I–III SCLC to evaluate whether best practice is being followed (eg radical radiotherapy delivered concurrently, baseline brain imaging, prophylactic cranial irradiation).
- 2** Improve the access to dietetic support, physical activity and smoking cessation, as well as specialist palliative care in order that patients' general health is maintained or improved between diagnosis and treatment.
- 3** Ensure the pathway from diagnosis to treatment is as streamlined as possible, in line with the NOLCP, to reduce the risk of deteriorating PS preventing treatment.
- 4** Review your results for SCLC in the annual report. Even if you met the recommended standards, is there anything you can do from the list below to make your results even better?
- 5** Review the ways in which the pros and cons of treatment are discussed with patients and carers.
- 6** Discuss your results with a colleague from another organisation in your region or elsewhere – you can see who is doing well by reviewing our online datasheet.
- 7** Implement a mechanism for pathology to flag a SCLC diagnosis to the oncology team so that an accelerated assessment can be organised.

Improving non-small-cell lung cancer (NSCLC) systemic anticancer therapy rates

The NLCA recommends that at least 70% of patients with advanced NSCLC and good PS should receive systemic anticancer therapy.*

Key steps recommended by

Dr Susan Harden, consultant clinical oncologist, Cambridge University Hospitals NHS Trust

- 1** Improve the access to dietetic support, physical activity and smoking cessation, as well as specialist palliative care in order that patients' general health is maintained or improved between diagnosis and treatment.
- 2** Review your results for stage IIIb–IV PS 0–1 NSCLC in the annual report. Even if you met the recommended standards, is there anything you can do from the list below to make your results even better?
- 3** Consider carrying out a deep dive audit of patients in this group who do not receive anticancer treatments to explore themes (eg unconscious bias against older patients).
- 4** Ensure data on all anticancer treatments (including oral) are submitted to the audit through SACT reporting.
- 5** Review and update local treatment policies for this patient group with complex treatment options as per NICE guidance.
- 6** Review the ways in which the pros and cons of treatment are discussed with patients and carers.
- 7** Ensure the pathway from diagnosis to treatment is as streamlined as possible, in line with the NOLCP, to reduce the risk of deteriorating PS preventing treatment.
- 8** Ensure that all actionable molecular testing is being undertaken, and that reflex testing is in place.

Improving curative-intent treatment rates

The NLCA recommends that at least 85 % of patients with NSCLC stage I–II and PS 0–2 should receive curative-intent treatment.*

Key steps recommended by

Dr Paul Beckett, consultant respiratory physician, University Hospitals of Derby and Burton

- 1 Improve the access to dietetic support, physical activity and smoking cessation, as well as specialist palliative care in order that patients' general health is maintained or improved between diagnosis and treatment.
- 2 Review your results in the NLCA annual report – even if you have met the recommended standard for curative-intent treatment, is there anything you can do from the list below to make your results even better?
- 3 Ensure you have regular attendance of a clinical oncologist for the whole of your treatment MDT, and that links with external radiotherapy treatment centres allow for smooth and rapid referral and treatment.
- 4 Consider whether your MDT has an informal but entrenched policy of excluding older patients, or those with comorbidities. This can often be invisible to existing MDT members.
- 5 Remember that some patients with stage IIIa/IIIb disease can be offered curative-intent non-surgical treatment, especially now that adjuvant durvalumab is available.
- 6 Work through the recommendations in the surgery section of our toolkit in order to maximise the number of patients having operative treatment.
- 7 Seek specialist advice on patients with oligometastasis as it may be still be possible to offer curative-intent treatment.
- 8 Carry out an audit (and consider external review) of patients with stage I–III disease who did not receive curative-intent treatment, to look for emerging themes.
- 9 Ensure that patients are staged appropriately using CT-positron emission tomography (PET), EBUS and brain scanning as detailed in NICE guidelines.
- 10 Ensure data on treatments are submitted to the audit through the COSD and National Radiotherapy Dataset (RTDS).
- 11 Read our spotlight audit on curative-intent treatment, and review your own data if you took part, to understand the context and solutions in more detail.

*NLCA annual report (audit period 2018)

Improving NSCLC stage III multimodality treatment rates

The NLCA recommends that at least 25 % of patients with stage III lung cancer should receive multimodality treatment for their disease.*

Key steps recommended by

Dr Susan Harden, consultant clinical oncologist, Cambridge University Hospitals NHS Trust

- 1** Review your results for stage III NSCLC in the annual report. Even if you met the recommended standards, is there anything you can do from the list below to make your results even better?
- 2** Ensure that patients with stage III NSCLC are appropriately worked up for consideration of multimodality treatment with CT-PET, staging EBUS and brain imaging as per NICE guidance.
- 3** Offer your fit stage III patients the opportunity to meet a surgeon and oncologist, ideally at the same time, to discuss relevant surgical or radiotherapy treatments.
- 4** Ensure the pathway from diagnosis to treatment is as streamlined as possible, in line with the NOLCP, to reduce the risk of deteriorating PS preventing treatment.
- 5** For patients receiving surgery or radical radiotherapy alone, ask your oncologist to review why SACT was not offered.
- 6** Review how information about curative-intent multimodality treatment was given and explained to patients and their relatives.
- 7** Improve the access to dietetic support, physical activity and smoking cessation, as well as specialist supportive care for symptoms, in order that patients' general health is maintained or improved between diagnosis and treatment.
- 8** For inoperable patients who did not receive radical radiotherapy, ask your oncologist to review why this was not offered. Advances in radiation technology (intensity-modulated radiation therapy (IMRT) / image-guided radiation therapy (IGRT)) allow more stage III tumours to be radically encompassed.
- 9** Ensure that patients with stage III NSCLC undergo molecular testing, in particular for programmed death ligand 1 (PD-L1).

Driving quality improvement

Key steps recommended by

Dr John Dean, clinical director for quality improvement and patient safety,
Royal College of Physicians, London

- 1 Agree as a team which outcome of the national audit data is your priority for improvement.
- 2 Form a small improvement team including clinical lead, improvement facilitator, information lead, patient lead.
- 3 Map the current system of care for people with suspected lung cancer. <https://improvement.nhs.uk/resources/mapping-process-overview/>
- 4 Gather local data about these processes and their reliability.
- 5 Break the problem down using cause and effect analysis. <https://improvement.nhs.uk/documents/2093/cause-effect-fishbone.pdf>
- 6 Agree the team and tasks to do this, including measures to demonstrate the effects of change. <https://improvement.nhs.uk/resources/making-data-count/>
- 7 Identify key processes that might need to be improved to improve your chosen outcome.
- 8 Agree which of these processes could be improved and set a local improvement SMART (specific, measurable, achievable, realistic and timebound) aim based on this data. <https://improvement.nhs.uk/documents/2189/developing-your-aims-statement.pdf>
- 9 Identify potential improvement projects to reach the aim using a driver diagram and choose your first one that is likely to have the biggest impact and be easiest to do. <https://improvement.nhs.uk/resources/driver-diagrams-tree-diagrams/>
- 10 Test and adapt your interventions using plan, do, study, act (PDSA) cycles until your aim is achieved. <https://improvement.nhs.uk/documents/2142/plan-do-study-act.pdf>

Template for use by the MDT

Outcome under consideration

Local result

National result

Standard

No.	Question	Notes/guidance	Response
1	Who is initiating this assessment?	It is recommended that either the lung cancer clinical lead or cancer manager initiates this assessment (include name and role title).	
2	Is an action required?	A proposal should be made at this stage for action / no action around quality improvement. Note that even where local level results align to the national average or to a nationally accepted standard, an opportunity for improvement should not be ruled out.	
3	What is the rationale?	Provide details of why investment in this area is required / not required at this time. Consider the time/resource investment in this area for quality improvement. Consider whether this is a priority area for your trust at this time.	
4	What are the proposed timescales?	A realistic timescale should be proposed for quality improvement in this area.	
5	Who is the action owner?	A single individual within the MDT should take responsibility for any proposed course of action, even where tasks fall to individuals, outside of the MDT (include name and role title).	
6	Which resources will be required?	List any key people together with their departments/organisations that will need to be approached/ involved. Consider also approaching your cancer alliance and local hospitals for sharing best practice solutions.	
7	Which documentation must be reviewed?	List any key documents and/or national guidance that will need to be reviewed and may need to be updated.	
8	Which governance board will need to be involved?	Identify to which governance board this item should be raised (include the governance board's name and next meeting date).	
9	Which other stakeholders need to be involved?		

Quality improvement resources

- 1** **NHS Improvement**
<https://improvement.nhs.uk/improvement-hub/quality-improvement/>
- 2** **Improvement Cymru**
<https://phw.nhs.wales/services-and-teams/improvement-cymru/>
- 3** **Quality improvement made simple**
www.health.org.uk/publications/quality-improvement-made-simple
- 4** **How to get started in quality improvement**
www.bmj.com/content/364/bmj.k5437
- 5** **Creating driver diagrams for improvement projects**
<https://improvement.nhs.uk/resources/creating-driver-diagrams-for-improvement-projects/>
- 6** **Making data count**
https://improvement.nhs.uk/documents/2748/NHS_MAKING_DATA_COUNT_2019_FINAL.pdf
- 7** **Statistical Process Control Tool**
<https://improvement.nhs.uk/resources/statistical-process-control-tool/>
- 8** **Plan, do, study, act (PDSA) cycles and the model for improvement**
<https://improvement.nhs.uk/resources/pdsa-cycles/>
- 9** **Life QI – quality improvement software for healthcare professionals**
www.ahsnnetwork.com/case-study/using-life-software-to-support-quality-improvement

National Lung Cancer Audit

The National Lung Cancer Audit (NLCA) is commissioned by the Healthcare Quality Improvement Partnership (HQIP). The NLCA is a programme of work that aims to improve the quality of care, services and clinical outcomes for patients with lung cancer in England, Scotland and Wales.

To find out more about the NLCA visit www.rcplondon.ac.uk/projects/national-lung-cancer-audit.

Related publications

National Lung Cancer Audit annual report 2019 (for the audit period 2018)

Spotlight report on curative-intent treatment of stage I–IIIa non-small-cell lung cancer

The National Lung Cancer Audit (NLCA)

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