Centre for Sustainable Delivery

NHS SCOTLAND

Cancer Performance and Earlier Diagnosis Programme

Optimal Lung Cancer Diagnostic Pathway

December 2022 (updated February 2024)

Review date: December 2024

Background

In July 2021, the Early Cancer Diagnosis Programme Board agreed that Scotland's first optimal diagnostic pathway to be developed should be lung cancer – this was also reinforced in the Scottish Government's Programme for Government, published September 2021. This was due to the high number of lung cancer cases diagnosed in Scotland, and significant proportion of those that are at a later stage, as well as the wealth of evidence that reinforces the importance of 'time' in determining curative versus palliative treatment, survival or not.

Lung cancer is the most common cancer in Scotland with around 5,500 cases diagnosed each year. The number of new cases is predicted to increase by 29% for women and 12% for men between 2008-2012 and 2023-2027. It is also the most common cause of cancer death in Scotland (3,874 deaths in 2020), accounting for 24% of all cancer deaths in 2020.

Patients can be diagnosed with lung cancer through a number of different routes. Based on latest cancer waiting times data[4] at the time of publication, 32% are diagnosed following an urgent suspicion of cancer referral from GP practices; 22% are diagnosed through 'direct referral to hospital' (i.e. Accident and Emergency); meanwhile 43% are diagnosed via 'other' – this includes 'incidental findings' (when the cancer diagnosed does not relate to the symptoms of the initial referral to secondary care).

When lung cancer is diagnosed around 46% are at a late stage (IV) in Scotland meaning curative outcomes are no longer available.

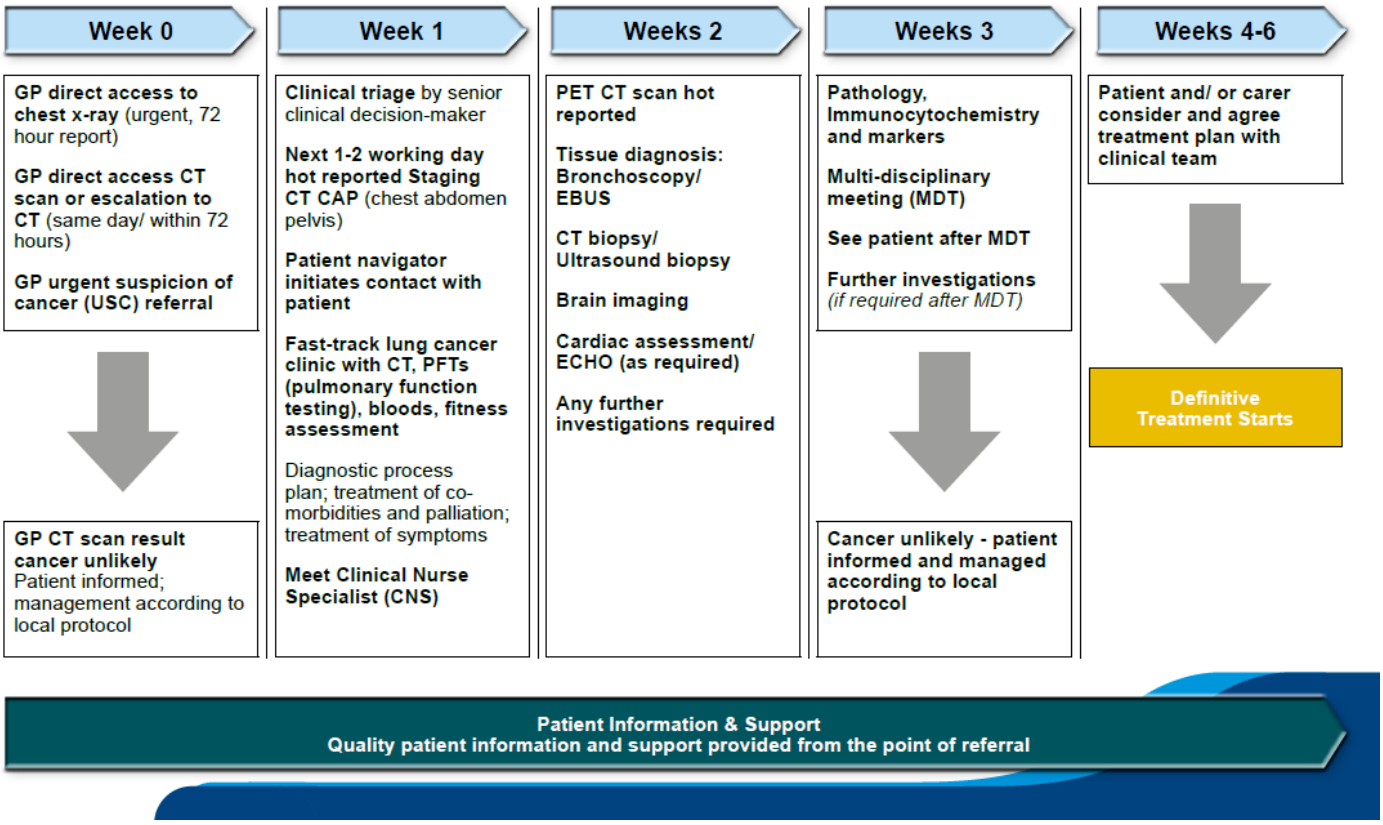
Across Scotland there is significant variation in the proportion of lung cancer patients who receive surgery or any curative treatment which is not explained by geography or patient factors. The national optimal diagnostic pathway represents an opportunity to improve such unwarranted variation.

Implementing best practice timed pathways support the ongoing improvement effort to shorten pathways, reduce variation, improve patient experience of care, and meet existing cancer waiting times standards.

The pathway outlined in this document gives lung cancer service providers a gold standard skeleton model to deliver an effective and efficient lung cancer pathway. It sets timeframes for each step to enable diagnosis by week 3 (day 21) and treatment for most to start by week 6 (day 42), which is significantly more ambitious than current cancer waiting times standards. Latest waiting times data (January to March 2022) shows that 63 lung cancer patients (12%) in Scotland received treatment after more than 62 days following their initial USC referral.

Pathway recommendations

Lung Optimal Cancer Diagnostic Pathway



Week 0 – Identification

It's recognised that lung cancer patients are often symptomatic for many months before presentation, irrespective of their disease stage at diagnosis. Long term behaviour change campaigns, such as those from Scotland's Detect Cancer Early Programme, therefore have a key role to play in ensuring people in Scotland are aware of possible symptoms and feel empowered to act early.

The initial identification and referral of patients with suspected lung cancer is largely dependent on primary care. Prompt recognition, risk assessment and referral is essential to reduce any delay in diagnosis and to reduce the high proportion of lung cancer patients who are diagnosed via emergency admissions in Scotland (around 22%).

The Scottish Referral Guideline for Suspected Cancer support primary care clinicians in identifying patients who are most likely to have cancer and therefore require urgent assessment by a specialist. Equally, the Guidelines help in identifying patients who are unlikely to have cancer, embedding safety betting as a diagnostic support tool.

A Chest X-Ray (CXR) is usually the first diagnostic test performed and this should happen quickly. When a CXR is normal or equivocal, a CT Chest may suffice to rule out lung cancer; where this is available this could be done by a GP and thus spare patients the worry associated with attending secondary care. Where a CXR is identified as abnormal, a full staging CT scan should be arranged promptly.

The pathway stipulates that within the first three days (maximum), patients with a suspicion of lung cancer will have had a CXR and CT scan acquired and reported. The CXR to CT pathway may be prioritised for implementation as it impacts on a larger volume of patients at the start of the pathway, and so in effect has a greater impact on all patients who will eventually be diagnosed with lung cancer.

Week 1 – CT, triage and clinic

This stage of the pathway begins when the CT result is available. This, together with other available clinical information should provide sufficient details to enable a senior clinical decision-maker to decide whether or not the patient enters a USC pathway, or is discharged/redirected.

If results are suggestive of cancer then the patient needs to be progressed urgently. The pathway recommends that a staging CT CAP (chest abdomen pelvis) is undertaken in the next 1-2 working days and hot reported. Arrangements should also be in place for prompt access to a cancer clinic – these should be reserved for patients where imaging results indicate a suspicion of cancer so that resources can remain focussed on those most likely to have a diagnosis.

Importantly, it's at this stage that a navigator initiates contact with the patient to ensure they're clear on next steps and have any questions or concerns allayed.

Week 2 – PET and biopsy

All patients potentially suitable for curative treatment on the optimal diagnostic pathway will require a range of tests to be undertaken. This is likely to include at least a PET CT, often an endobronchial ultrasound (E-BUS)/ bronchoscopy biopsy and may require detailed lung function tests. It may also include cardiac and exercise testing. All tests need to happen within 14 days so, where possible, they should be 'bundled' and arranged within the same day for patient convenience and to minimise delay.

This part of the pathway outlines the ambition for PET scans to be hot reported. There are five PET scanners in NHS Scotland (NHS Tayside, NHS Lothian, NHS Grampian and two in NHS Greater Glasgow & Clyde). One of the main challenges with this service is the sustainable supply of FDG (fluorodeoxyglucose) which is required for the scan to be undertaken. This limits the options that are possible with other radiological investigations such as extended working days/weekend working. Understanding the demand of pre-operative lung PET scans will be a key first step in understanding the reorganisation required in order to meet this pathway milestone.

Week 3 – MDT and further diagnostics

The pathway stipulates that histology turnaround times for the initial diagnostic report should happen within 5 days but additional molecular testing to guide targeted therapies e.g., EGFR gene mutation, ALK gene rearrangement and PDL1 expression, will take longer-possibly a further 5 days. Some pathology departments in NHS England 'reflex test' for molecular markers, rather than waiting for the MDT decision and request. This arrangement can save valuable time, particularly for samples from patients with advanced stage disease.

There have been a number of publications produced on how an effective lung MDT should function including the UK Lung Cancer Coalition's review on the 'Dream MDT' and key principles outlined in the Framework for Effective Cancer Management. As the pathway outlines - the ambition is for the patient to be informed of the outcome of the MDT on the same day with them and their families given time to digest their treatment options, if any, benefits and risks.

Weeks 4-6 – Treatment

Within the 21 days of the pathway, patients should jointly agree their treatment plan (decision to treat) with their clinical team. To ensure that the referral for treatment happens as efficiently as possible, prompt notification to the treating specialist is required. This should include the results of pre-operative tests already performed such as lung function and biopsy reports. In Manchester they use a standardised MDT proforma for collecting all relevant data for the treatment decision, which is then also used as the referral and is sent directly from the MDT, to minimise any delays.

Efficient use of time in planning complex radiotherapy treatment by oncologists, radiographers and physicists is necessary to reduce the time to curative-intent radiotherapy. While the pathway reflects the importance of having time to consider treatment options and have discussions with carers/family members, the main aim remains getting patients to treatment as quickly as possible.

References and further resources

1. Scottish Referral Guidelines for Suspected Cancer – Lung
   https://www.cancerreferral.scot.nhs.uk/lung-cancer/

2. Urgent Suspicion of Cancer – National Regrading Guidance
   https://www.gov.scot/publications/urgent-suspicion-cancer-national-regrading-guidance/

3. Framework for Effective Cancer Management
   https://www.gov.scot/publications/framework-effective-cancer-management/

gjnh.cfsdpmo@gjnh.scot.nhs.uk

www.nhscfsd.co.uk

@NHSScotCfSD

Centre for Sustainable Delivery

Scan the code to visit our website