Promoting earlier diagnosis & better outcomes in symptomatic lung cancer: getting the front end of the pathway right

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Greater Manchester Cancer

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Objectives	To describe a multi-facetted strategy to improve the early diagnosis of symptomatic lung cancer & improve overall outcomes across GM including: • Pathways expected to be delivered in all localities of GM & describe different models of delivery • Pilots in development to test new models of care
	To standardise key aspects of promoting early diagnosis in lung cancer across GM and provide a model of care framework for commissioning & clinical teams to review
Related Documents	• GM Lung Cancer Services Model of Care • National Lung Cancer Optimal Pathway

Action Plan	Owner	Objective
Direct access GP CXR: Walk-in Map current GM services & opening hours	Isaac Allan Rhidian Bramley	Ensure equitable access across all of GM
KPI Performance Monitoring Quarterly reporting of KPIs for GM	Rhidian Bramley Lisa Galligan-Dawson	Performance monitoring & quality assurance
Direct Access Patient-led CXR Pilot Project planning stage	Seamus Grundy Isaac Allan	Develop robust project plan, pathway, business case, evaluation
qXR pilot for CXR triage Project planning stage	Rhidian Bramley Matthew Evison	Develop robust project plan, pathway & funding model, evaluation
Agreed process for CXR upgrades being recorded as 2WW referrals	Lisa Gallagan-Dawson	Standardise practice across GM
Ensure community AHPs in GM e.g. practice nurses can request CXRs	Sarah Taylor	Maximise CXR requesting in GM

1.   Introduction

The NHS Long Term Plan (LTP) commits to improving outcomes in cancer through early diagnosis and improving survival. Lung Cancer is the single largest cause of cancer death and outcomes in the UK fall behind those countries of equal wealth across the world. There is a building evidence base the following interventions may help to achieve the ambitions of the NHS LTP:

- **Increasing the uptake of Chest X-rays in symptomatic patients with persistent chest symptoms (>3 weeks) may lead to a stage shift towards early-stage disease and improved survival (Kennedy et al, Thorax 2018)**

A lung cancer symptom awareness campaign in Leeds that increased CXR uptake by 80% was associated with a 8.8% increase in patients diagnosed at stage I/II and a 9.3% reduction in the absolute number of patients diagnosed with stage 4 lung cancer.

- **Increasing the number suspected lung cancer referrals from primary to secondary care is associated with improved survival and earlier diagnosis of lung cancer (Round et al, BJGP 2020)**

A national cohort study of 1.4 million patients demonstrated a reduced risk of death from lung cancer in patients from GP practices with a high referral rate on the suspected cancer pathway (HR 0.95, 95%CI 0.94-0.97).

- **Accelerated pathways improve survival in lung cancer pathways (Navani et al, Lancet Respiratory 2015, Hall et al, Lung Cancer 2021)**

In a randomised controlled trial (Lung-BOOST), patients with a rapid diagnostic pathway averaging 14 days had a significantly better survival compared to routine care with an average pathway of 30 days (503 days, 95% CI 312–715 versus 312 days, 95% CI 231–488; HR 0·60, 0·37–0·98, p=0·0382). A systematic review of all the evidence investigating accelerated pathways in lung cancer confirmed improved mortality for earlier stage lung cancer patients completing an accelerated pathway.
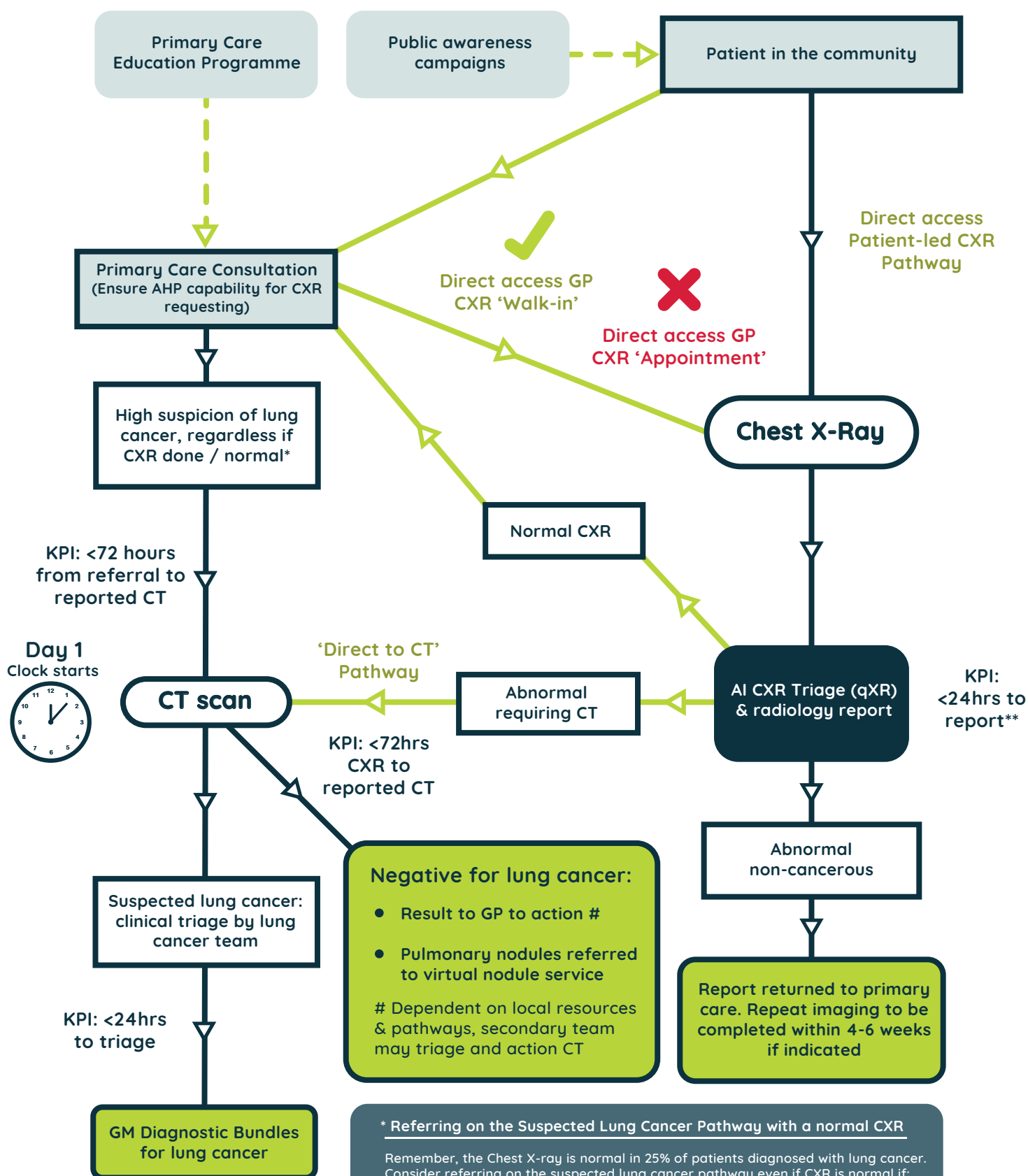
Therefore, Greater Manchester must implement standardised pathways and interventions that deliver:

- ✓ **Increased CXR uptake**
- ✓ **Increased primary care suspected lung cancer referrals**
- ✓ **Accelerated lung cancer diagnostic pathways**

This document provides a strategic overview to deliver these goals for Greater Manchester and a model of care framework for clinical and commissioning teams to review.

Note: this document describes the strategic approach to symptomatic patients requiring urgent investigation for lung cancer. This is a sparate pathway to the Lung Health Check Programme that provides non-urgent assessment of asymptomatic patients at risk of lung cancer with low-does CT imaging in the community.

2. On overview of the Greater Manchester Earlier Diagnosis of Symptomatic Lung Cancer Strategy

Primary Care Education Programme

Public awareness campaigns

Patient in the community

Primary Care Consultation (Ensure AHP capability for CXR requesting)

✔ **Direct access GP CXR 'Walk-in'**

✘ **Direct access GP CXR 'Appointment'**

Direct access Patient-led CXR Pathway

High suspicion of lung cancer, regardless if CXR done / normal*

Chest X-Ray

KPI: <72 hours from referral to reported CT

Normal CXR

Day 1
Clock starts

'Direct to CT' Pathway

CT scan

Abnormal requiring CT

AI CXR Triage (qXR) & radiology report

KPI: <24hrs to report**

KPI: <72hrs CXR to reported CT

Suspected lung cancer: clinical triage by lung cancer team

Negative for lung cancer:

- **Result to GP to action #**
- **Pulmonary nodules referred to virtual nodule service**

Dependent on local resources & pathways, secondary team may triage and action CT

Abnormal non-cancerous

KPI: <24hrs to triage

Report returned to primary care. Repeat imaging to be completed within 4-6 weeks if indicated

GM Diagnostic Bundles for lung cancer

* Referring on the Suspected Lung Cancer Pathway with a normal CXR

Remember, the Chest X-ray is normal in 25% of patients diagnosed with lung cancer. Consider referring on the suspected lung cancer pathway even if CXR is normal if:

- High lung cancer risk (smoking history, asbestos exposure, FH, previous H&N cancer)
- Uncertainty as to reason for presentation
- Symptoms not responding as expected to therapy
- Abnormal blood profile: anaemia, thrombocytosis
- **Gut feeling of a sinister pathology**

** Additional mechanisms that could support the delivery of the KPI include radiographer reporting

3. Definitions used in the front end of the lung cancer pathway

Direct Access GP CXR: Walk-in. Patient can attend secondary care with a GP request ad hoc and complete a CXR. No appointment needed. Recommended GM Pathway for Direct access GP CXR: Should be operational in all localities across GM.

Direct Access GP CXR: Appointment. Patient can attend secondary care for a CXR following GP request but required to make an appointment first. This pathway should be replaced with a 'Walk-in' pathway.

Direct access Patient-led CXR Pathway: Patient can self-refer & attend secondary care ad hoc and complete a CXR, without a GP request. Pilot under development in Fairfield and Rochdale, AZ joint working contract.

'Direct to CT' Pathway: An abnormal CXR that requires a CT scan due to a suspicion of lung cancer automatically leads to a CT of the Chest with the process owned and overseen by secondary care. A CT scan suspicious of lung cancer is upgraded and immediately triaged / actioned by the secondary care lung cancer team to initiate diagnostic work-up. CT scan reports with no evidence of cancer are returned to the GP to action (pulmonary nodules should then be referred to a virtual nodule clinic) though in some areas resources may allow secondary care team to triage and action all CT results. A Direct to CT pathway should be operational in all localities across GM.

qXR Triage: qXR is an artificial intelligence programme that will read chest-rays and highlight those considered to be suspicious for lung cancer for urgent reporting. Aim is to speed up the pathway. Pilot under development for GM in collaboration with QURE (and indirectly AZ)

Notes:
In the Direct Access to CT pathway, GPs are sometimes asked to complete a 2WW referral despite secondary care owning the process from CXR to CT. Completing this referral is duplication but allows the cancer team to track on the 2WW pathway rather than a consultant upgrade and allow better monitoring of pathway performance from primary care referrals. The cancer alliance recognises the need for a standardised approach across GM that prevents duplication and facilitates accurate recording of suspected cancer referrals originating from primary care. We are actively working to standardise this process across GM.

4. Recommendations for type of CT chest used in the lung cancer pathway

Abnormal suspicious of lung cancer	**Contrast CT chest & upper abdomen**
Suspected lung cancer, normal CXR	**Low dose CT chest**
Haemoptysis, no CXR performed	**Low dose CT scan or contrast enhanced CT chest & upper abdomen depending on local policy**
Vague symptom/Weight loss	**Contrast CT Chest, abdomen, pelvis** (can be done via Rapid Diagnostic Centres if available)

5. Key performance indicators for the front end of the Lung cancer pathway

- GP Practices, CCGs, Primary care network CXR rate >34 per 1000 patients
- Primary care CXR reporting target <24hrs (target >90% of primary care CXRs)
- Time from abnormal CT report to a reported CT <72hrs (target >90% of direct access CTs)
- Time from suspected lung cancer referral to reported CT can <72 hours (target>90%)
- Time from CT report to clinical triage for cancer scans <24 hours (target >90% of upgraded CTs)
- GP Practices, CCGs, Primary care network proportion of patients diagnosed with stage 1 lung cancer
- GP Practices, CCGs, Primary care network lung cancer mortality

All localities with Greater Manchester are requested to confirm:

- A training programme to ensure AHPs e.g. practice nurses can request CXRs
- An active programme of public awareness campaigns to encourage attendance at primary care with symptoms that might be lung cancer
- An active programme of primary care education to increase the uptake of Chest-X-ray and suspected lung cancer referrals

6. GM Resources to support this strategy

Public awareness campaigns
- Do it for yourself campaign
- Lung cancer awareness animation
- See through the symptoms campaign (developed by EGFR, ALK and Ruth Strauss Foundation charities)

Primary Care Education
- A-G lung cancer infographic (provided below)
- Gateway C early diagnosis of lung cancer module
- Gateway C webinars – lung cancer diagnosis

LUNG CANCER
THINK A–G

Supporting earlier & faster cancer diagnosis

GatewayC LIVE
Greater Manchester

A

APPETITE LOSS

Reduced appetite, lethargy or weight loss can be presenting symptoms of lung cancer. Consider a chest X-ray (CXR), CT scan or referral to a non-site specific clinic.
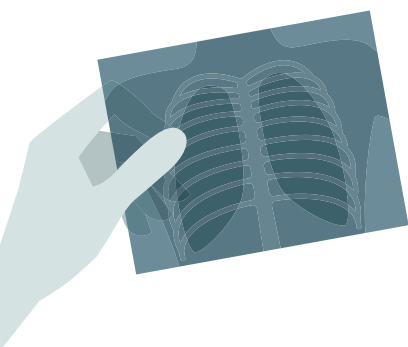
B

BLOOD TESTS

Abnormal blood test results (i.e. anaemia, raised platelets, raised white cell count low albumin, and/or ferritin) may trigger a suspicion of lung cancer. Investigate further with a CXR and consider a referral on the suspected lung cancer pathway for a CT scan, even if the CXR is normal.

C

COUGH

Any cough lasting 3 weeks or more (or breathlessness/chest pain) should trigger a CXR. If any concern of lung cancer remains despite a normal CXR, then refer on the suspected cancer pathway.

💡 **REMEMBER:** Not every cough is Covid.

D
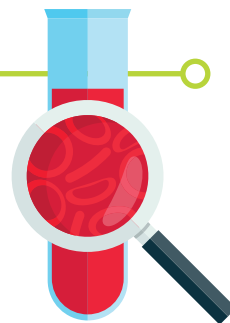
DON'T FORGET NEVER-SMOKERS

A never-smoker is defined as someone who has smoked less than 100 cigarettes in their lifetime. Approximately 6000 people that are never-smokers die of lung cancer each year in the UK; this is the 8th commonest cause of cancer-related death. Always investigate patients with persistent chest symptoms.
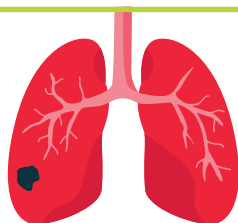
E

EARLY DIAGNOSIS

The early diagnosis of lung cancer improves prognosis. It's important to investigate patients with persistent respiratory symptoms such as, breathlessness, chest pain and haemoptysis.

F

## FALSE NEGATIVE RATE OF CHEST X-RAYS

25% of lung cancers are not visible on chest X-rays. A normal CXR does not exclude lung cancer. If any concern of lung cancer remains despite a normal CXR, refer for a CT scan or on the suspected lung cancer pathway.

G

GREATER MANCHESTER REFERRAL PROFORMA

— Please refer all patients using the Greater Manchester form

— Ensure the patient understands the reason for referral

— Include frailty information as this helps direct patients to the most appropriate investigation or assessment

REFERRAL PROCESS FOR GREATER MCR

GM referral form

Bloods

Recent CXR results