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Streamlining the lung diagnostic pathway (A87)

Crawley CCG with Surrey and Sussex Healthcare NHS Trust

Evaluation

January 2017

Crawley Clinical Commissioning Group
Horsham and Mid Sussex Clinical Commissioning Group

Summary

A new Straight-to-CT pathway for patients with an abnormal CXR result was introduced in October 2015 at Sussex and Surrey Healthcare NHS Trust and was monitored for 12 Months.

The team devised a new CXR referral form and patient information, to enable a patient to be referred directly to CT; when the CXR result warrants this.

An electronic automatic alert (Code Z5) is used when a CXR Result indicatives a potential cancer. The code then triggers the new pathway, which moves the patient more quickly to a CT scan.

During the 12-month pilot, 88 patients received a Z5 code and 47 (53%) of those later received a confirmed cancer diagnosis.

Prior to implementation, CXR to CT interval was **27 days,** post implementation **15 days**

Before implementation only **16%** of 2WW referrals had CT prior to OPA, rate is now **50%**

Background

NHS Crawley Clinical Commissioning Group (CCG) is led by local doctors and health professionals. The CCG is made up of the 12 GP practices and is responsible for the health and wellbeing of more than 120,000 people. This project affected other organisations that work closely with Crawley CCG, particularly Horsham and Mid Sussex (HMS) CCG, East Surrey (ES) CCG, Primary Care Services / GP Practices and Secondary Care, the NHS Surrey and Sussex Healthcare Trust (SaSH).

The SaSH local health economy encompasses four CCGs with approximately 40 GP practices and 240 GPs. The trust performed around 9,000 GP requested chest x-rays (CXR) in a year (2014/15) and on average sees 35 2 week wait (2ww) referrals a month.

A project proposal, completed in July 2014, led to the successful inclusion in wave 1 of the National Accelerate, Coordinate and Evaluate (ACE) project and was one of eight considering the lung diagnostic pathway.

Key Objectives set out in proposal

- To avoid unnecessary delays in the diagnostic pathway for lung cancer patients – shorten CXR to CT time
- To reduce the anxiety and burden on patients who do not have a completely normal chest x-ray (CXR). At present, they are often asked to have a repeat CXR in 6-8 weeks.
- To promote joined-up working between Primary and Secondary Care which will lead to a smoother and more seamless patient experience of the lung cancer diagnostic pathway
- To ensure more patients have CT scan results available at their initial 2 week wait appointment which will, in turn, support respiratory physicians at that early consultation
- To improve lung cancer survival rates through earlier detection of tumours when more treatment options (including surgical resections) may be available

Clinical leadership from both the commissioners and SaSH together with support from key CCGs and trust personnel was highlighted as a pre-requisite for the project. Dr Jude Gunasegaram, Crawley CCG took a key role overseeing the project with support from Dr Tina George, Horsham and Mid Sussex (HMS) Clinical Lead for Cancer. This project greatly benefited in that one individual, Dr Ed Cetti, is the senior clinical lead in Respiratory, Cancer and Diagnostic Services within the trust.

Dedicated project management was secured from March 2016 which maintained momentum by providing organisation of meetings, meeting notes, action logs and project

plans and supported relationship building between the key stakeholders within Crawley CCG, the trust and other CCGs.

The planning stage over March and April 2015, which included one to one meetings with stakeholders to understand the current pathways, led to the first formal project meeting in May 2015 form which the design phase began in earnest. There were three further project meeting leading to go live in October 2015. The details of attendees is shown in table 1. In addition to the project meetings there were a number of work stream meetings particularly with the radiology department and cancer services team at SaSH.

Table 1: Project Team meeting attendance May 2015 – February 2016

Attendance at project meetings	May	June	July	Sept	Nov	Feb
Clinical Lead Crawley CCG	Yes	Yes	Yes	Yes		Yes
Clinical Lead SaSH	Yes	Yes	Yes	Yes	Yes	Yes
Clinical Lead HMS CCG	Yes	Yes	Yes	Yes		Yes
Cancer Services Manager SaSH	Yes	Yes	Yes	Yes	Yes	Yes
Commissioning manager Crawley and HMS CCG	Yes	Yes	Yes	Yes	Yes	Yes
East Surrey CCG		Yes			Yes	Yes
Radiologist SaSH		Yes			Yes	
Total in attendance	**8**	**7**	**6**	**6**	**4**	**8**

Go Live 1st October 2015

New chest x-ray (CXR) request form

The CXR request form that was in use was a small A5 size form which had little space for clinical details and required to be handwritten. It was agreed the new form would need to contain

- Clear clinical indications for the CXR (in accordance with the new NICE clinical guidance)
- Risk factors for cancer
- The information required for IRMER compliance including the latest Creatinine and eGFR blood test results needed before a CT scan is performed.
- Patient details/latest blood results to be auto-populated

Following discussions with the radiology department and primary care and with several iterations a final version of the new CXR request form was agreed in September and is shown in Appendix X.

The next step is to automate the request process through the introduction of radiology order comms, streamlining the requesting process further and providing additional benefits such as supporting electronic signatures. As there was a trust wide project addressing this, it was agreed this was outside of the ACE project.

Patient information sheet

The CXR request form is given to the patient to take to the performing department. To support the information the GPs provided to the patients it was agreed to add a second page, a patient information sheet, to further encourage patients to have their CXR as soon as possible and highlight that a hospital specialist may be in contact to arrange a CT scan.

The project as a whole had been presented to the Commissioning Patient Reference group who were very supportive of the proposal. A sub-section of the group provided assistance with the development of the patient information sheet by proof reading earlier versions and suggesting patient friendly wording and formatting as appropriate. The final version of the patient information sheet is shown in appendix X.

"Z5" codes for suspicion of cancer

The trust had already implemented the coding/identification functionality of suspicious radiological findings across the tumour groups with the ability to notify the clinical leads electronically, known as "Z5". The trust wanted to develop the lung diagnostic pathway to identify how best to manage these patients. Abnormal findings on CXRs are coded as "Z5 – chest" which is included in the result and triggers a copy of the result, emailed automatically, to the chest physicians.

The use of standardised radiology reporting to provide GPs with advice and guidance in addition to the finding was discussed during the design phase and will be considered by the radiology department in a wider conversation across the different disciplines and diagnostic tests.

Respiratory Review

One of the two respiratory consultants reviews the Z5 CXRs and either telephones or writes to both the GP and patient informing them of the next steps and requesting a 2ww referral from the GP. At the same time the respiratory consultant would request the CT scan, bloods and an outpatient appointment (OPA) as required.

There was much discussion during the design phase with both the GPs and the trust regarding the necessity of the 2ww referral and it was agreed that with current national standards this was required to start the "cancer clock" but will be reviewed in light to the pending changes to a 28 day national standard.

The pathway was amended in November to add informing the central booking office if a 2ww referral was being made as traditionally they would book an OPA on receipt of the referral where under the new pathway the respiratory consultants would be arranging the CT scan first.

Straight to CT

Previously only 16% of 2ww referrals had a CT performed prior to their first outpatient appointment which increased to 35% at the end of the pilot and after 12 months had increased to 50% of 2ww referral as having a CT performed prior to their first outpatient appointment.

Internal SaSH meetings continue between respiratory medicine, radiology and cancer services to review CT capacity and streamlining the booking process

Results

From the launch 01/10/2015 to 08/05/2016 a total of 90 GP CXR requests were coded Z5 of which 54 patients entered the new pathway with 23 patients having a cancer diagnosis. By the end of 12 months 88 patients had entered the new pathway with 47 (53%) receiving a confirmed cancer diagnosis.

The Average time from an abnormal CXR to CT being performed is currently 15 days the previous average time was 27 days showing a 12 day improvement.

Table 2: Pathway segment durations October 2014 to March 2015 – all 2ww

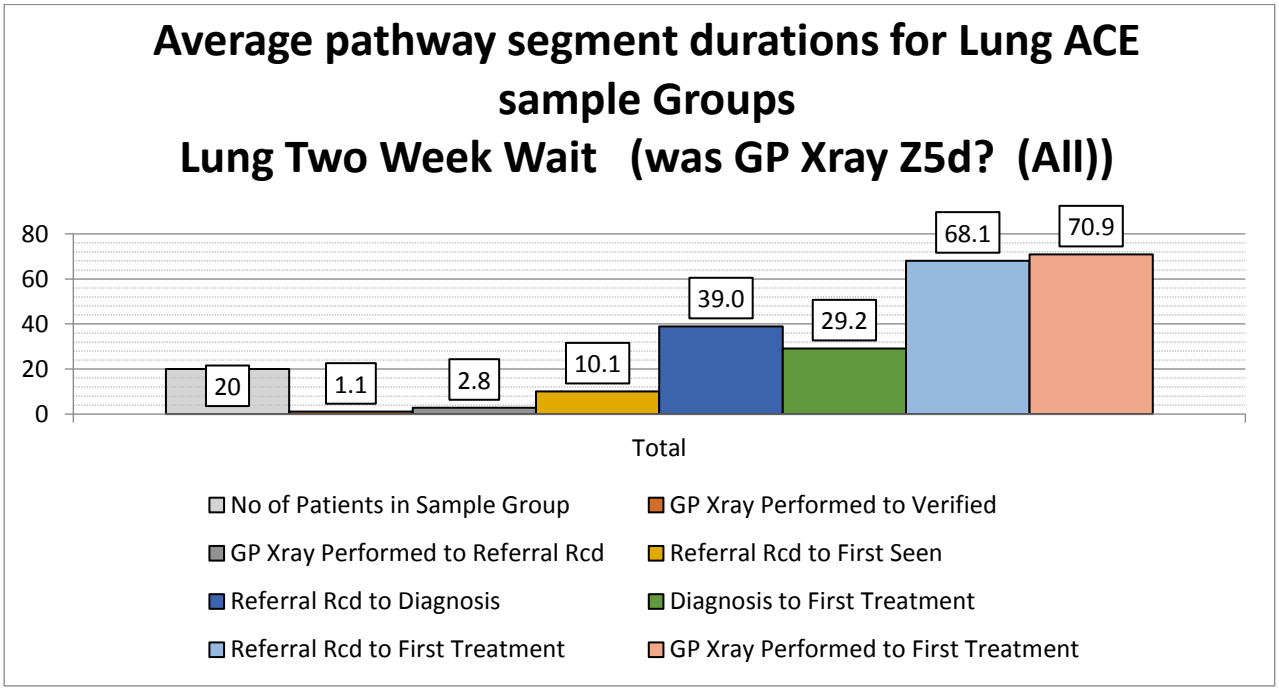
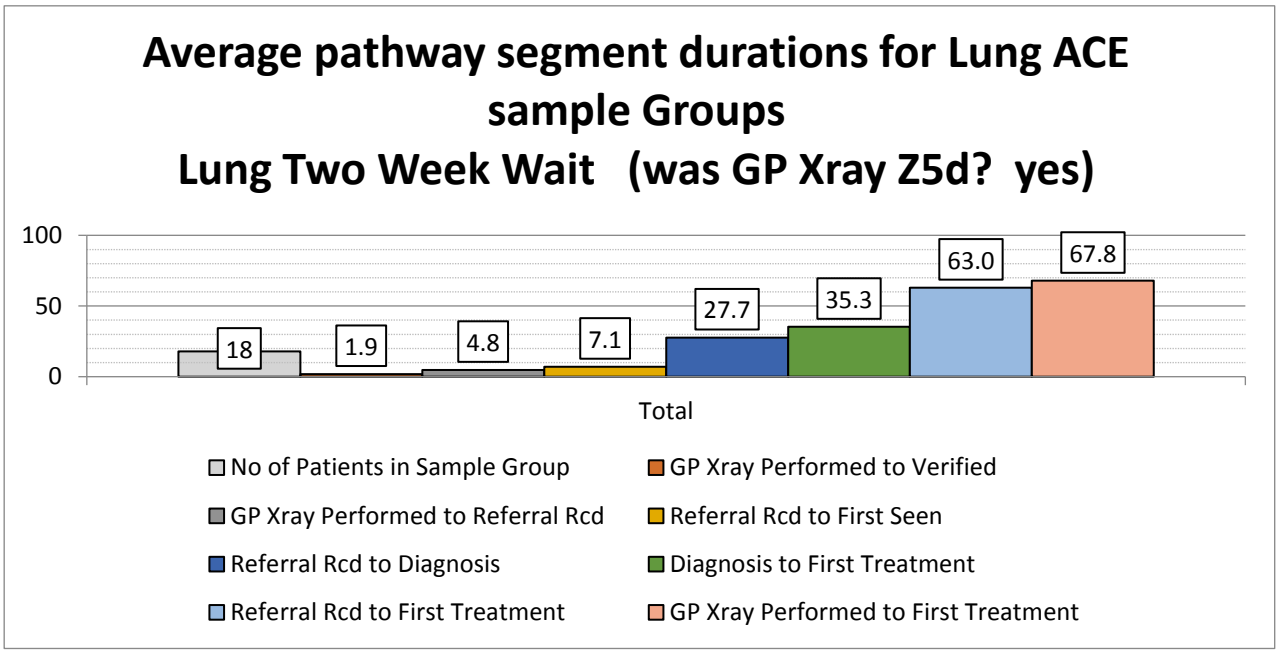


Table 3: Pathway segment durations October 2015 to March 2016 – 2ww with Z5

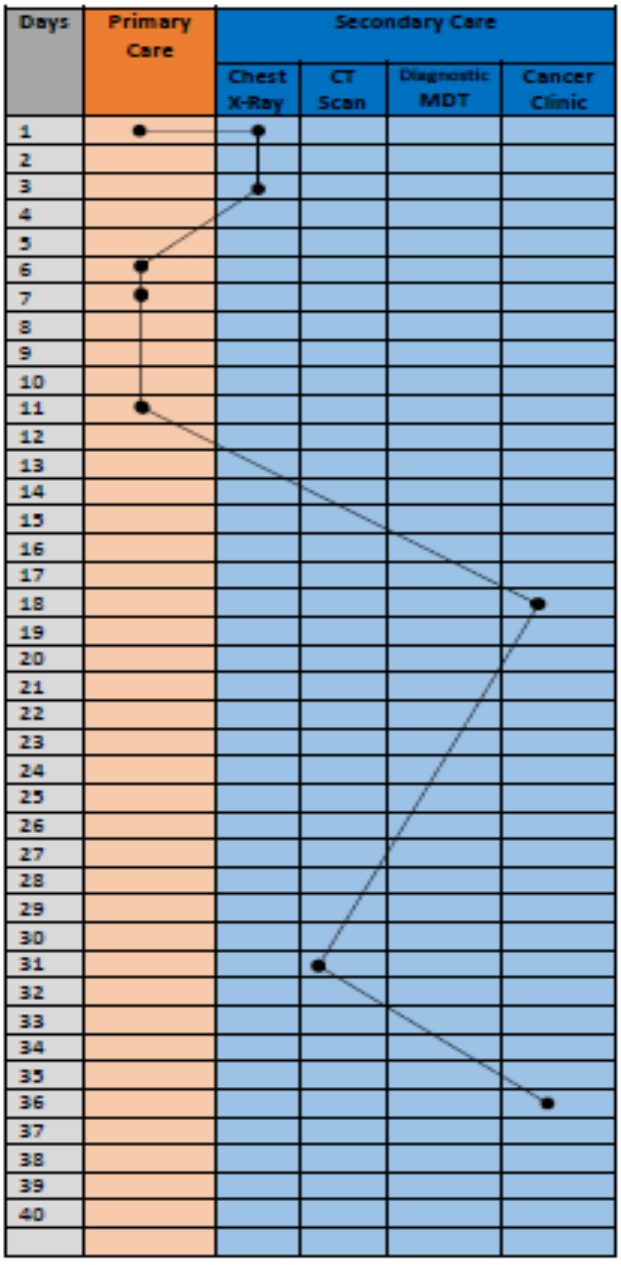


Conclusion

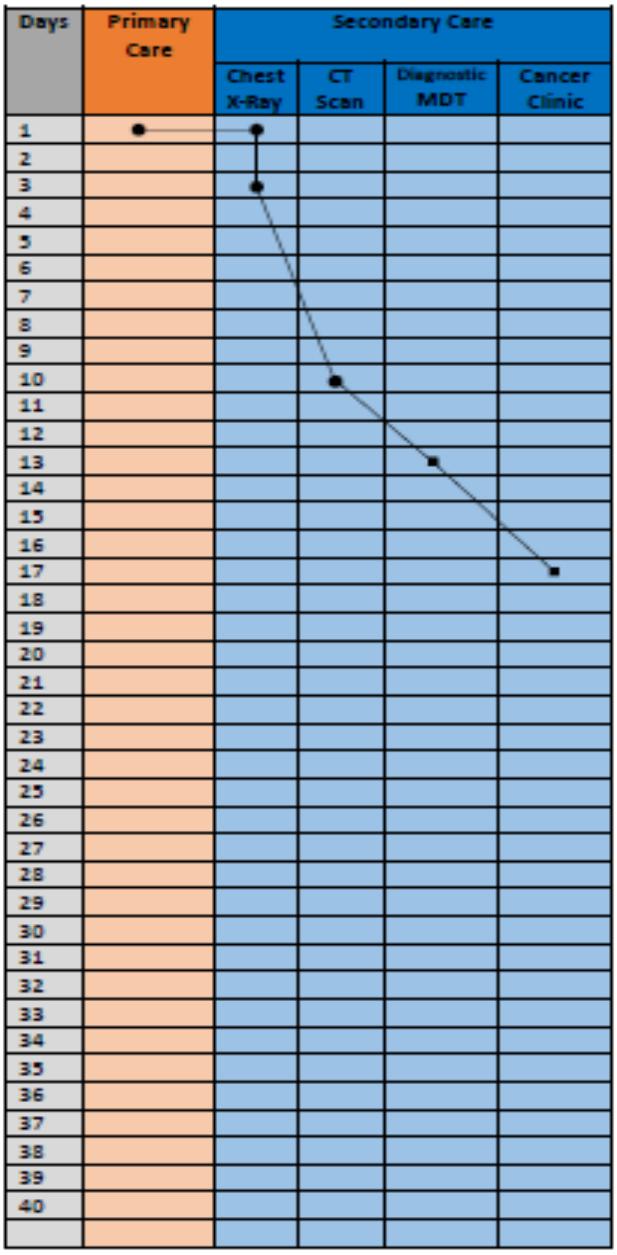
- New and better CXR request form
- Z5 automatic alerts work very well as a safety net for abnormal imaging
- The automatic alerts – straight to CT significantly optimise pathway
- New request form and pathway considered a success and are now used consistently
- Further work on the remaining lung diagnostic pathway to diagnosis or exclusion of cancer continues
- Experience of using Z5 alerts as part of the new lung diagnostic pathway will be used when considering the use of Z5 alerts for other tumour sites.

Appendix X: Days to diagnosis

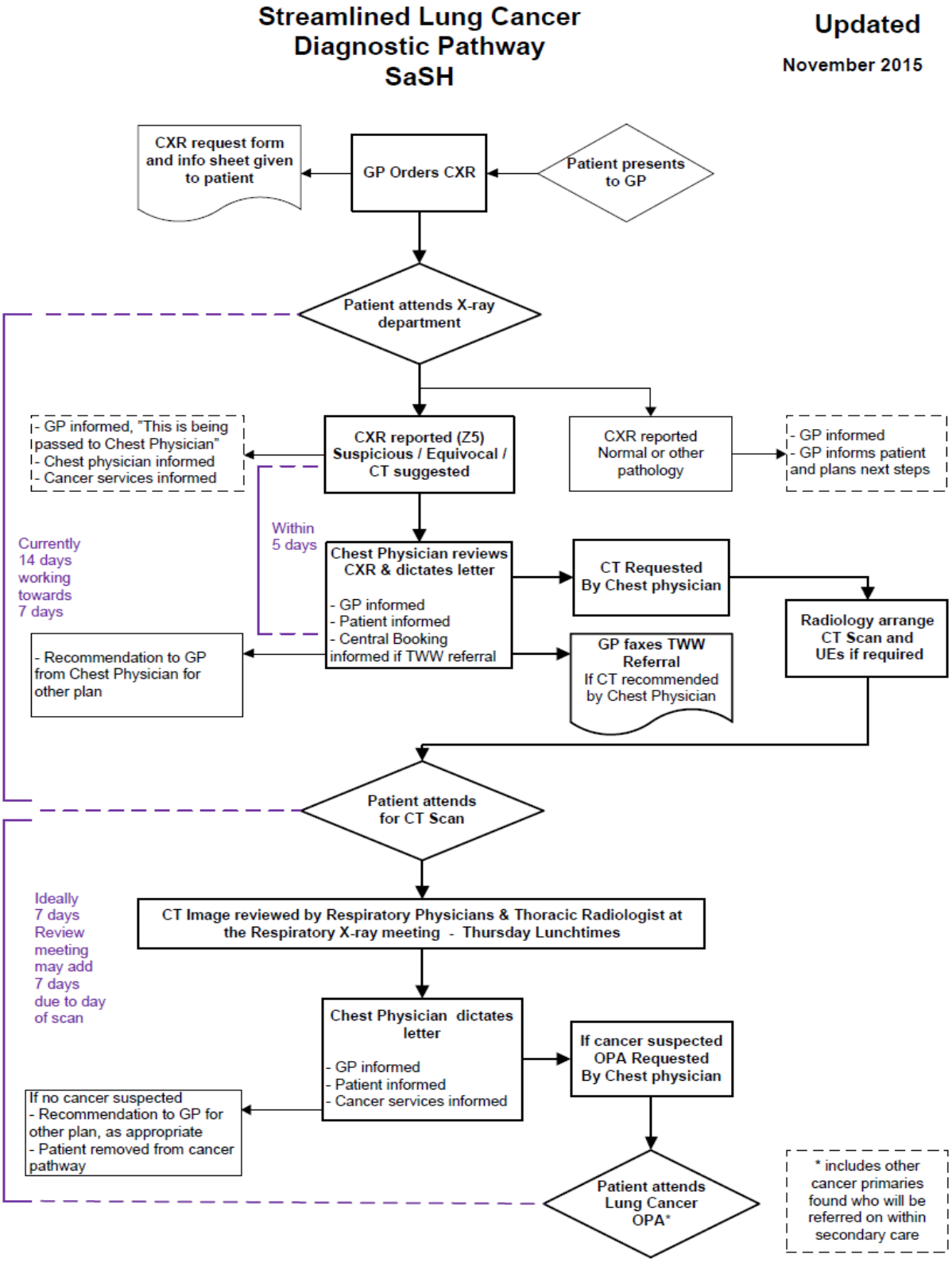
Before 36 days



Ideal 17 days (need to update)



Appendix X: New pathway



Appendix X: New chest x-ray request form – page 1

GP Chest X-Ray Request

Surrey and Sussex Healthcare NHS Trust

Referral priority: Routine ☐ URGENT ☐

PATIENT DETAILS	GP DETAILS
Full name:	**Referrers Name:**
Address:	**Practice Address:**
Home Tel:	**Telephone:**
Mobile Tel:	**Fax:**
Patient email:	**Practice email** (nhs.net ONLY):
D.O.B:	Optional **GP email** (nhs.net ONLY):
NHS Number:	
Gender:	
UBRN Number:	

	CRITERIA FOR REFERRAL (Please tick)
☐	Cough (lasting more than 3 weeks)
☐	Persistent or recurrent chest infections
☐	Loss of weight / loss of appetite / fatigue
☐	Haemoptysis (esp. if age >40 in a smoker) *Unexplained Haemoptysis in patients over the age of 40 years should be referred on 2ww and ensure CXR requested at same time*
☐	Underlying chronic respiratory problems with unexpected changes in existing symptoms
☐	Chest pain (non-cardiac) / shoulder pain (with no obvious cause)
☐	Hoarseness
☐	Rapidly worsening dyspnoea / spirometry
☐	Finger clubbing
☐	Supraclavicular or persistent cervical lymphadenopathy
☐	Thrombocytosis
☐	Superior vena caval obstruction*
☐	Stridor*

** consider immediate transfer to A&E*

RISK FACTORS (Please tick)	
Current smoker	☐
Chronic obstructive pulmonary disease	☐
Ex-smoker	☐
Exposure to asbestos	☐
Previous history of any cancer (especially head and neck)	☐

RECENT BLOOD TESTS
Latest Creatinine Vision – Code 44J3.00 SystmOne - Read code XE2q5 EMIS – Serum Creatinine
Date
Latest eGFR Vision – Code 451E.00 SystmOne - Read code XaK8y EMIS – GFR calculated abbreviated MDRD
Date
Date of LMP:

	ANTIBIOTIC HISTORY
☐	The patient has recently completed a full course of antibiotics for a presumed chest infection (Please tick)

ADDITIONAL INFORMATION	
Referrer's Signature:	**Referral Date:**

Appendix X New chest x-ray request form – page 2

IMPORTANT PATIENT INFORMATION

Your GP has requested that you have a chest x-ray. We would encourage you to have your chest x-ray as soon as possible as some conditions may get worse if not treated promptly. Your x-ray report will be available to your GP within one week.

In some cases after a chest x-ray, a hospital specialist may decide that further investigations are required. In that case, a member of staff from East Surrey Hospital will contact you directly to arrange a CT (Computerised Tomography) scan.

You and your GP will receive the CT result two weeks after the scan. Some patients may be contacted directly by East Surrey Hospital to arrange a hospital appointment to discuss your CT scan results.

GOING FOR YOUR X-RAY

You can have your chest x-ray at Crawley, East Surrey and Horsham Hospitals which operate a walk-in system, therefore no appointment is required or Caterham Dene Hospital by appointment only. Please take your x-ray form with you to the Radiology Department.

Crawley Hospital West Green Drive Crawley RH11 7DH Telephone: 01293 600300 Opening times: Monday-Friday 9am – 5pm	East Surrey Hospital Canada Avenue Redhill RH1 5RH Telephone: 01737 768511 Opening times: Monday-Friday 9am – 5pm
Caterham Dene Hospital Church Road Caterham CR3 5RA Telephone: 01883 837511 To book Mon-Fri 9am – 4:15pm or limited times Sat-Sun	Horsham Hospital Hurst Road Horsham RH12 2DR Telephone: 01403 227000 Opening times: Monday-Friday 9am – 5pm

If you require assistance with travelling to the hospital please call the Patient Transport Bureau on 0300 7772131

THE HOSPITALS' RADIOLOGY DEPARTMENTS ARE NOT OPEN ON BANK HOLIDAYS

September 2015

Appendix X ACE: Drivers of Change

ACE Project:__A14 & A87__

On behalf of:__Horsham and Mid Sussex CCG and Crawley CCG__

Motivating factors

Factors that helped kick start projects, even if negative e.g. recognition that local performance is comparatively poor

Factor	Comment
1. Poor 1 year survival rates	The one year survival rates for lung cancer was lower than the England average for both CCGs.
2. Emergency presentations	Both CCGs have a higher rate of patients diagnosed via emergency routes than the England average for lung cancers.
3. Increase in 2WW referrals with Respiratory OPA capacity concerns	Respiratory Consultants at both BSUH and SaSH trusts had concerns regarding a rise in 2WW referrals, the potential "inappropriateness" of some referrals and capacity issues with out-patient cancer/urgent/routine appointments.
4. Neoplasms are the top cause of potential years of life lost (PYLL) for all-cause mortality (2012-2013). Specifically, lung cancer is the most common neoplasm accounting for PYLL in males	It is an ambition of both CCGs to reduce premature mortality rates
5. To promote better communication between Primary and Secondary Care	Through piloting a new CXR request form which contains relevant clinical information from Primary Care, updated in accordance with the new NICE guidance (NG12)
6. To ensure more patients have their CT scan results available at their initial consultation with the respiratory physician	It is hoped this will speed up the clinical pathway and support respiratory physicians in their decision making at the first clinic appointment

Sustainability factors

What features have helped you maintain momentum, e.g. clinical leadership, project management

Factor	Comment
1. Project Management resource	Having dedicated project management support has maintained momentum by • providing organisation of meetings, meeting notes, action logs and project plans • relationship building with key stakeholders within the trusts and other CCGs through communications and coordination of meetings and work streams
2. Trust Clinical Leadership at SaSH	A87 has benefited in that one individual is the senior clinical lead in Respiratory, Cancer and Diagnostics Services within the Trust
3. CCG Clinical Leadership	Which has helped to ensure engagement from key stakeholders including; Primary Care, the Patient Reference Groups and neighbouring commissioners.
4. Formation of Diagnostic MDT meetings at BSUH	A14 has more recently benefited from the formation of the Diagnostic MDT meetings which has provided a forum for clinical discussion and decision making around pathway choices for certain radiological findings.
5. The existence of a system to flag up suspicious radiological findings	A87 – The trust had already implemented the coding/identification of suspicious radiological finding for both Chest x-rays and CT scans and where therefore

	wanting to develop the pathway to identify how to best manage these patients.
6. Support from Primary Care Colleagues	The projects have been presented to the local GPs and the CCG membership, who have been very supportive of the proposal for a streamlined diagnostic pathway
7. Patient engagement	The projects have been presented to the Commissioning Patient Reference Groups who have been very supportive of the proposal and requested updates of the progress.

Challenges/Obstacles

What factors have caused delay or threatened the achievement of your aims? E.g. information governance, resistance to change attitudes

Factor	Comment
1. Multiple stakeholder engagement	There have been some difficulties arranging meetings with/ involving the key stakeholders due to workload demands and other pressing priorities, particularly for those in the radiology departments and other CCGs. A challenge specific to the A14 project is the fact that the CCG involved is not the lead commissioner for the Trust
2. Base lining of current pathways	For A14 we are awaiting the results of the trust's audit on lung cancer 2WW referrals. Initial results have been discussed.
3. Concerns about potential financial implications for the Trusts	Concerns were raised initially and the financial implications of the new pathway will be monitored
4.	
5.	