provided by the Cytopathology department is of

Dr Paul Cane

A3 Project – Improving the Lung Cancer Diagnostic Pathway

A3 problem solving is a method of analysing problems in a thorough and systematic way. A3 refers to the size of paper sheet that is used to report the analysis and the actions arising from that analysis. The A3 allows a standardised approach to problem solving which, if done correctly, can lead to robust and sustainable solutions to problems rather than the empirical and more risky solutions derived from a 'knee jerk' or superficial solution-generating methodology.

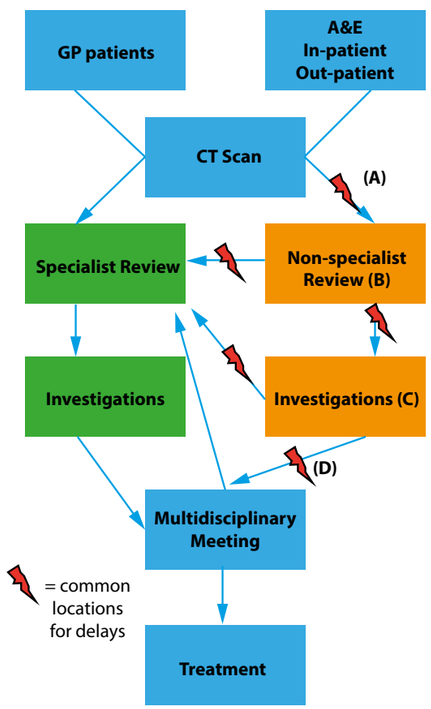
The lung cancer service at Guy's and St Thomas' (GST) Hospital receives patients for diagnosis from a number of different sources. While a proportion are referred by GPs on the cancer wait pathway, the majority present with unrelated conditions and, when CT scanned, show incidental abnormalities, suggestive of lung cancer. Patients referred by GPs via the two-week-wait cancer pathway are cared for by a specialist lung cancer team and subject to the 62-day target for diagnosis and treatment. However, patients from other sources are usually cared for by non-specialists initially and are not subject to the same degree of oversight until later in their pathway, usually at the point their tumours are diagnosed. As chair of the lung cancer MDT, I was aware of different pathways. I had noted cases where there seemed to be delays in the care of some patients and was unhappy with the potential inequality of care.

I decided to make the lung cancer diagnostic pathways the subject of my A3 project, which was part of the excellent 'Leading Transformational Cultural Change' course. At the start of 2014, we surveyed the care of all patients diagnosed with lung cancer in the previous year and found that patients referred by GPs were diagnosed and treated significantly faster than those presenting from other sources. The two root causes were, first, there may be delays on acting on the initial abnormal CT scan and, second, investigations may be started by clinicians who are not lung cancer specialists and therefore may not order the most appropriate investigations with the required degree of urgency. There was also no equivalent monitoring of the progress of the non-GP patients, so it was possible for some patients to be 'lost'.

Our proposed solutions were to change the alert system within radiology so a referral to the specialist lung cancer team happens whenever a CT scan was suspicious of lung cancer, and for the cancer waits team to be informed so the patient's progress could be tracked. The implementation of the solution is at present incomplete, as we encountered resistance from the wider radiology department to changing the alert system and also problems with IT support for new alerts. We are now making progress with the required changes and hope the new pathway will be working before the end of the year. We can then repeat the survey next year to measure any differences.

Dr Paul Cane
Consultant Histopathologist
Guy's and St Thomas' NHS Foundation Trust

Improving the Lung Cancer Diagnostic Pathway



Team Members: PC (Lead), GS = RB = BL (Chest medicine), AN = RP (Radiology), MJ (Cancer Waits Office)

Date: Feb-Nov 2014

Define the problem (what problem are you trying to solve?)

The care a lung cancer patient receives depends on how they present introducing inequality

Current state (what happens now? A simple, visual summary)

There are multiple pathways for lung cancer patients (figure 1). Patients referred by GPs were treated 46 days after their CT scan on average while patients referred by other routes waited 76 days on average (Figure 2).

Goal (Specific, Measurable, Achievable, Realistic, Timely)

All lung cancer patients receive the same standard of care by December 2014

Waste identified

Abnormal scans not always acted upon immediately (A), specialist team under utilised (B), inappropriate investigations being done in some cases (C), patients referred to the lung MDM before they are fully worked up (D) - see figure 1 for location of waste in the pathway

Root cause analysis (what is the root cause of the problem?)

Only patients from GPs are tracked along their pathway. Not all patients are being assessed by the lung cancer specialists in the first instance.

Figure 1

Existing lung cancer pathway

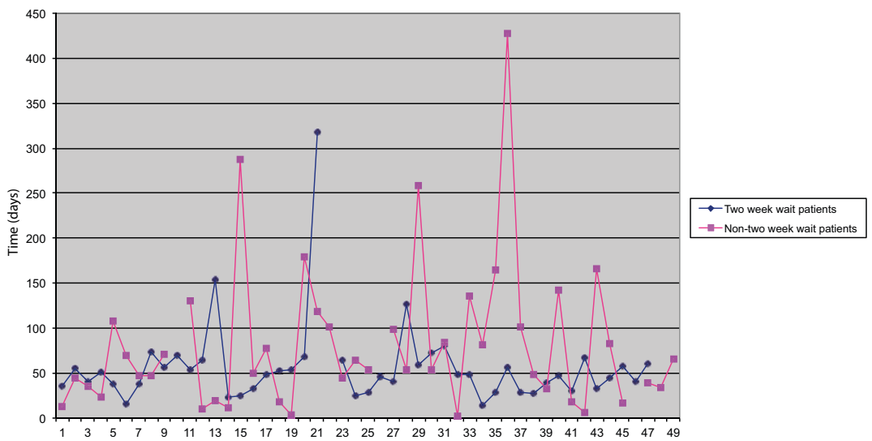


Figure 2

Statistical Process Control (SPC) Chart

Paul Cane, Consultant Histopathologist and Clinical Lead for Lung Cancer, Guy's and St Thomas' Hospital

Future state/countermeasures

A single effective lung cancer pathway utilising the specialist lung cancer team with oversight by the cancer waits team (figure 3). A consultant upgrade will be triggered by an abnormal scan result, all patients will be tracked by the cancer waits office and referred immediately to the specialist lung cancer team.

Action plan

Action - what, when, why, how?	Who?	When?	Progress status
Design unified pathway	ALL	Sept	Complete
Modify radiology alert	AN,RP	Nov	Complete
Cancer waits team approve new pathway	MJ	Nov	Complete
New pathway to be adopted	ALL	Dec	

Results and measures (what was your PDSA cycle, how long did you run it for, what data did you collect before and after the change, what did you find? Be visual!

We will compare the average length of pathways before and after the changes, divided according to route of presentation. Any pathways longer than 62 days will be examined in depth to find the causes of the delays.

Next steps (any remaining issues/problems - any further follow up required?

Monitor the workload of the lung specialist team to determine any need for extra resource, set up a quarterly meeting to highlight and learn from examples of good and bad practice, review the policy of following up indeterminate scans that do not require immediate investigation.

Leadership Journey

- There was little engagement from the project team at first
- Whilst acknowledging the pathway could be better the initial consensus was that it was fine as it was.
- Team members had other priorities and preferred to use email instead of physically meeting.
- A break-through came after data was collected and shared, finding several case studies where care had been far from optimal.
- The need for improvement was then acknowledged, the team became engaged and efficiently agreed solutions

Important learning points included

- It is difficult to engage a team in problem solving until everyone accepts a significant problem exists
- Looking at individual patient experiences can be a more effective motivator than average statistics
- Team members may be motivated for different reasons and knowing the motivating factors is key to success

Figure 3

New lung cancer pathway