QI in Lung Cancer

David Lodge

19th December 2018

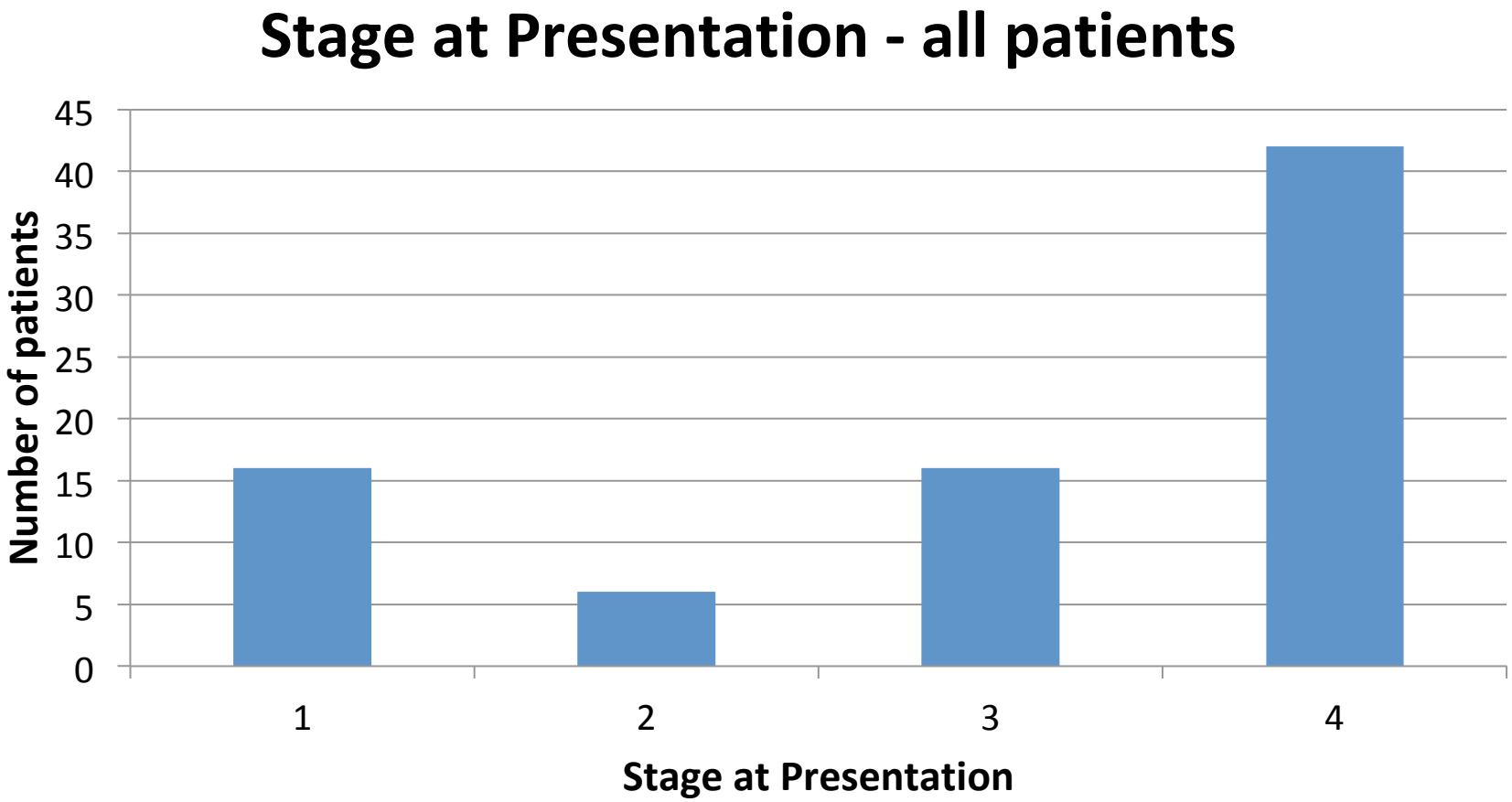
CHANGE

DATA

QI Project Aim

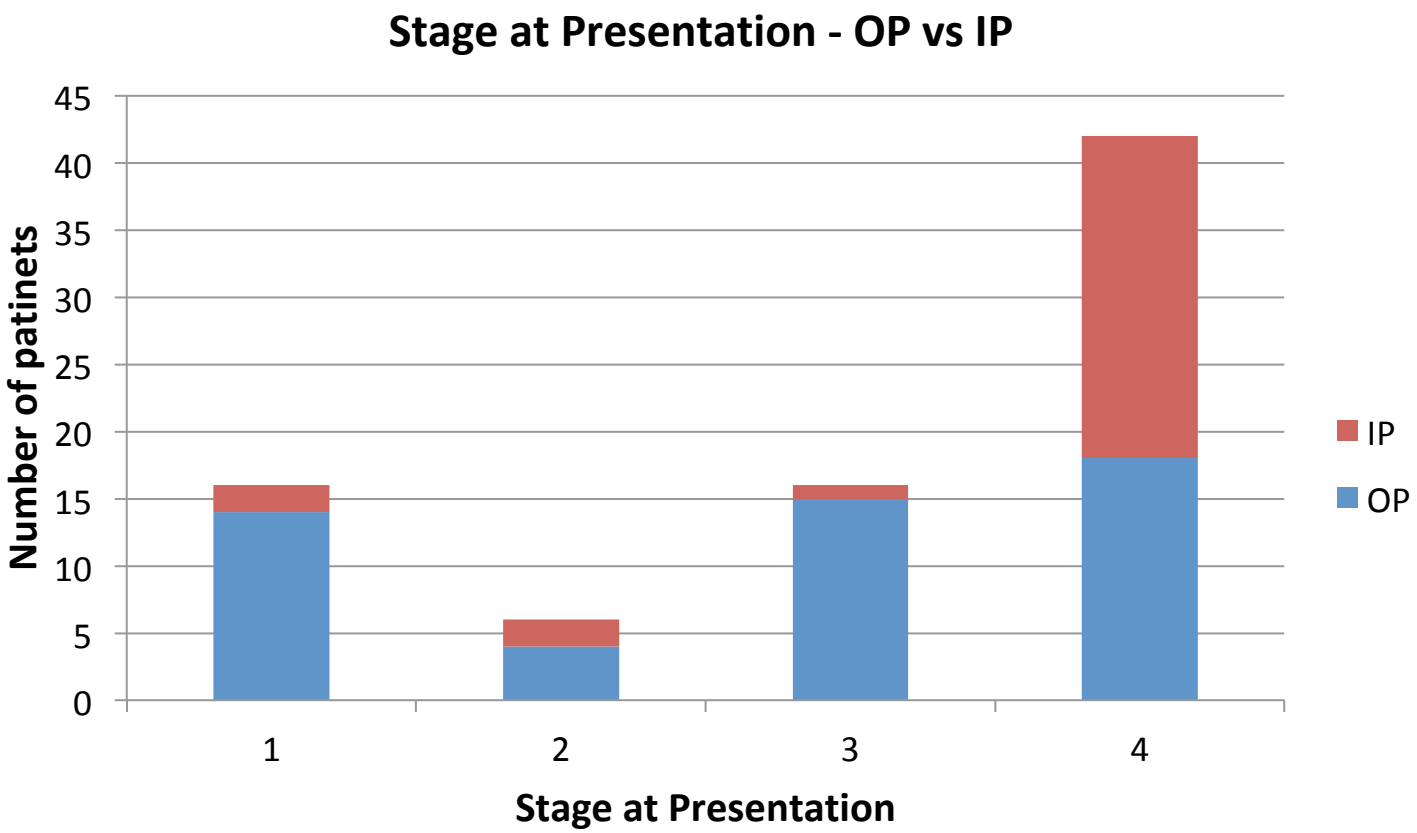
To reduce the time from referral to diagnosis and first treatment, for patients with suspected lung cancer referred to Portsmouth Hospital

Baseline Data



April/May 2018

- 36% patients presented as inpatients



Project Plan

- Interview staff (engage stakeholders)
- Identify things that could be better
- Try to make those things better
- Hope that it improves the data

Stakeholders

Stakeholders: Lung Cancer Pathway

Department				Job title
Respiratory	Consultants	Lesley	Bishop	Consultant Respiratory Physician; Divisional Director, Medicine and Urgent Care
		Clare	Bradley	Consultant Respiratory Physician
		Walid	Ibrahim	Consultant Respiratory Physician
		Robin	Clark	Consultant Respiratory Physician
		Anna	Lithgow	Consultant Respiratory Physician
		Ben	Green	Consultant Respiratory Physician
		Mark	Roland	Consultant Respiratory Physician
	LCNS	Alena	Clemo	Lung Cancer Specialist Nurse
		Kate	Bentley	Lung Cancer Specialist Nurse
		Denise	Wright	Lung Cancer Specialist Nurse
		Ann	Moylan	Lung Cancer Specialist Nurse
	MDT	Heather	De Ste Croix	Lung MDT Co-ordinator
	Office	Karen	Nutkins	Lead Admin Assistant, Respiratory front office
		Kirsty	Mcguire	Respiratory Secretary
	Other	Nuala	Whitehead	Lead Respiratory Nurse
	SpR	Emily	Harvey	Respiratory Registrar
		Mark	Watson	Respiratory Registrar
Oncology	Consultants	Tim	Gulliford	Consultant Oncologist
		Danny	Bloomfield	Consultant Clinical Oncologist
		Ram		Consultant Medical Oncologist
		Suhail	Baluch	Consultant Clinical Oncologist
Pathology	Consultants	Donall	Tansey	Consultant Histopathologist
		Chris	Moffatt	Consultant Histopathologist
		Andras	Nagy	Consultant Histopathologist
	Manager	Julie	Conway	Interim Care Group Manager, Clinical Support Services
	Lab	Scott	Elliott	Biomedical Scientist Specialist
		Gabriel	Francis	Advance Biomedical Scientist
		Iolia	Akaev	Biomedical Scientist
Management		Dawn	Holland	Head of Cancer Services
		Paula	Taylor	Operational Manager, Respiratory Oncology
		Lewis	Wilkinson	Medicine Business Manager
		Constantinos	Yiangou	Associate Medical Director, Surgery and Cancer
Radiology	Consultants	Paula	McParland	Consultant Radiologist
		Adam	Wallis	Consultant Radiologist
		Simon	Ward	Consultant Radiologist; Deputy Medical Director
	Managers	Nicky	Wragg	CT and MRI Superintendent
		Janine	Hatch	Imaging Services Manager
Surgeons		Edwin	Woo	Consultant Thoracic Surgeon
		Martin	Chamberlain	Consultant Thoracic Surgeon
Other		Rob	Radford	Early Detection Transformation Lead, Wessex Cancer Alliance

Stakeholders

Stakeholders: Lung Cancer Pathway

Department				Job title
Respiratory	Consultants	Lesley	Bishop	Consultant Respiratory Physician; Divisional Director, Medicine and Urgent Care
		Clare	Bradley	Consultant Respiratory Physician
		Walid	Ibrahim	Consultant Respiratory Physician
		Robin	Clark	Consultant Respiratory Physician
		Anna	Lithgow	Consultant Respiratory Physician
		Ben	Green	Consultant Respiratory Physician
		Mark	Roland	Consultant Respiratory Physician
	LCNS	Alena	Clemo	Lung Cancer Specialist Nurse
		Kate	Bentley	Lung Cancer Specialist Nurse
		Denise	Wright	Lung Cancer Specialist Nurse
		Ann	Moylan	Lung Cancer Specialist Nurse
	MDT	Heather	De Ste Croix	Lung MDT Co-ordinator
	Office	Karen	Nutkins	Lead Admin Assistant, Respiratory front office
		Kirsty	Mcguire	Respiratory Secretary
	Other	Nuala	Whitehead	Lead Respiratory Nurse
	SpR	Emily	Harvey	Respiratory Registrar
		Mark	Watson	Respiratory Registrar


I ADDED ALL OF THE PRODUCT FEATURES THAT EACH OF YOU DEMANDED.
PRODUCT
Dilbert.com DilbertCartoonist@gmail.com
NOW OUR PRODUCT IS A WORTHLESS HODGEPODGE OF COMPLEXITY.
2-25-13 ©2013 Scott Adams, Inc./Dist. by Universal Uclick
I APPRECIATE YOUR INPUT. I COULDN'T HAVE FAILED WITHOUT YOU.
TEAM-WORK!

Driver Diagram

Primary Driver	Secondary Driver	Change Ideas
Clinics	Capture all information at the first appointment	Standardised EPRO letter layout
		Proforma for clinics
		MDT database (updated as results come through)
	Ensure the right investigations are requested first time	'Reference' diagnostic pathway
		Pre-clinic diagnostic MDT?

Driver Diagram

Subject	Area to address	Ideas for solutions
Pathway		
Clinics	Capture all information at the first appointment	Standardised EPRO letter layout
		Proforma for clinics
		MDT database (updated as results come through)
	Ensure the right investigations are requested first time	'Reference' diagnostic pathway
		Pre-clinic diagnostic MDT?
Communication	Flag all procedures on the Day Ward to the MDT Co-ordinator	Day Ward to keep record of patients for MDT
		Additional box on Procedure Checklist
	Send all investigation results to clinicians/Heather	Reflex' highlighting of results; 'tracking' screen?
	- imaging	
	- pathology	
	- molecular markers	
	Highlight SCLC patients to the MDT	Email alert (automated?) from pathologists to MDT (like Oxford)
	Reduce PET delays	
	- time to scan	
	- delays in scan images/report being imported to PACS	
	Clear information for inpatient referrals	MDT referral tab on Bedview
Pathway	Ensure SSA policy doesn't delay patient care	Discuss options with Deputy Chief Nurse
	Ensure investigations are booked urgently and results chased appropriately ('Pathway manager'?)	Recruit additional admin support
	Ensure investigations are appropriately prioritised	Special folder for use in cancer clinics
		Pre-stamping request forms with CWT stickers?
	Arrange PET and CTB on the same day	Pre-diagnostic MDT?
	Ensure EBUS is performed *after* PET	Pre-diagnostic MDT?
	Ensure PFTs performed on all appropriate patients, before MDT	Pathway guide for clinics (esp for SpRs)
		Pre-clinic diagnostic MDT (with radiology?) - emphasis on curative intent
	Delays in getting results of molecular markers	Review current data; move services from Birmingham to Oxford/in-house?
Referrals	Electronic referrals	Review eReferral system to ensure 2WW patients are prioritised
	Straight to CT	Review referrals
		Low threshold for CT
		Pre-warn patients
	Emergency admissions avoidance	Urgent next-day review of cases in Ambulatory Care
Surgery	Improve fitness for surgery for 'borderline' candidates	Surgical pre-hab
	Increase number of 'borderline' patients reviewed by surgeons	Surgeons to attend whole of MDT
	Reduce delays to surgery - review by surgeons on same day as BBN?	Emergency' appointment at end of surgical clinic
MDT	Venue not good for discussion	Change the venue/establish MDT room for the Trust?
	Alternative MDT forums for some discussions	Identify whether this is an issue
	- oncology with radiology	
	- Respiratory with radiology (pre-diagnostic MDT)	
	More efficient	Change the list layout/order
		Regular list preparation
	Access to all information necessary during MDT	Laptops
Patient Experience		
Clinics	Improve the availability of clinic rooms for LCNs during cancer clinics	Book room for CNSs for every clinic
LCN	CNS to spend less time doing admin	Band 4 Admin Assistant, paid for by the transformation bid
		Automatic reporting of some results for virtual clinic (workflow screen)
		Ensure Day Ward patients needing MDT discussion are highlighted
		New phone line for the CNSs
	Improve communication between Lung CNSs	
	CNSs to do more pleural stuff (IPC drainage)	Pleural training
	LCNs in oncology appointments	Oncology business case
Referrals	Patient information at the point of referral to the pathway	Patient information leaflets, to be given out by GPs

Pareto Chart

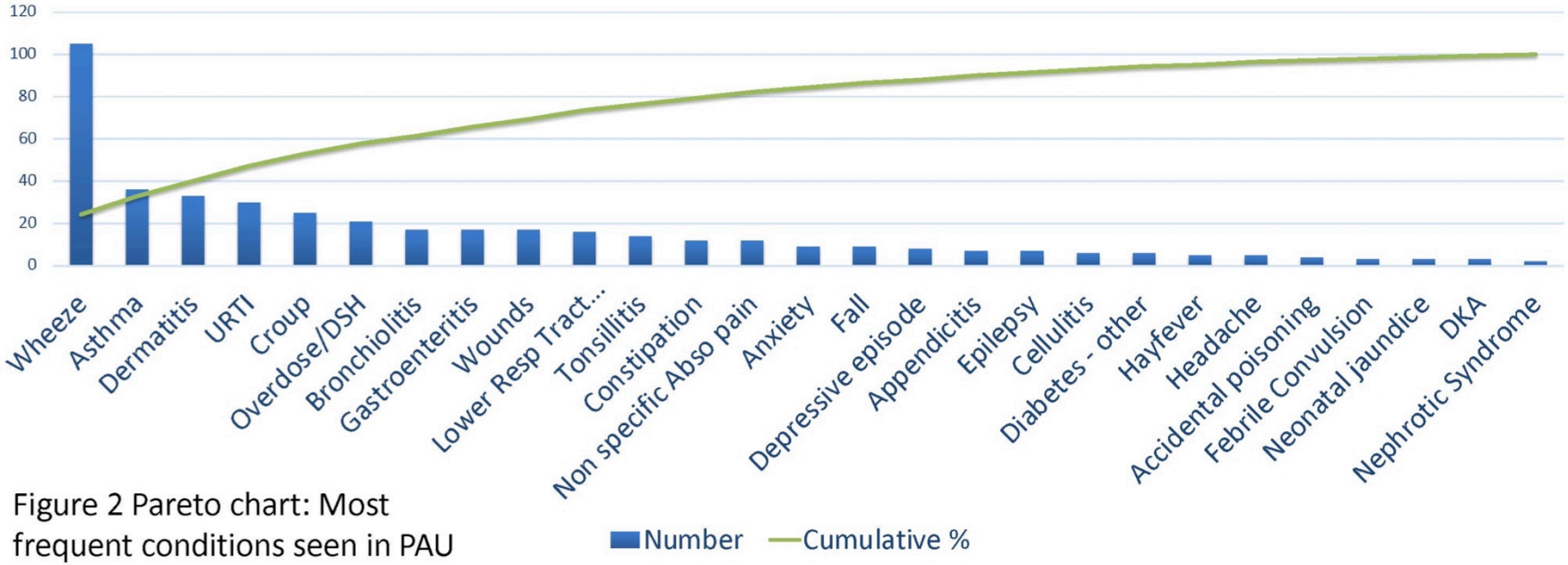


Figure 2 Pareto chart: Most frequent conditions seen in PAU

Wessex Early Diagnosis Transformation Bid

- Aims
  - Identify lung cancer at an earlier stage
  - Reduce one-year mortality
    - 25% 5-year survival by 2025
  - Implement NOLCP
  - Reduce emergency presentations of lung cancer

- Funding confirmed November 2018

Structure for Improvement

1. Communication
2. Improve efficiency and capacity
3. Early detection

1. Communication

- Respiratory Day Ward
- PDSA cycle

Day Ward Patients for MDT

- July 2018
  - 30% procedure reports mentioned MDT
  - 22% inpatient procedures needed MDT discussion
    - Not highlighted to MDT Co-ordinator
  - No reports for pleural procedures
- August 2018: thoracoscopy patient missed

Day Ward Patients for MDT

- September 2018
  - 90% patients had MDT yes/no documented
- October 2018
  - 95% patients had MDT yes/no documented

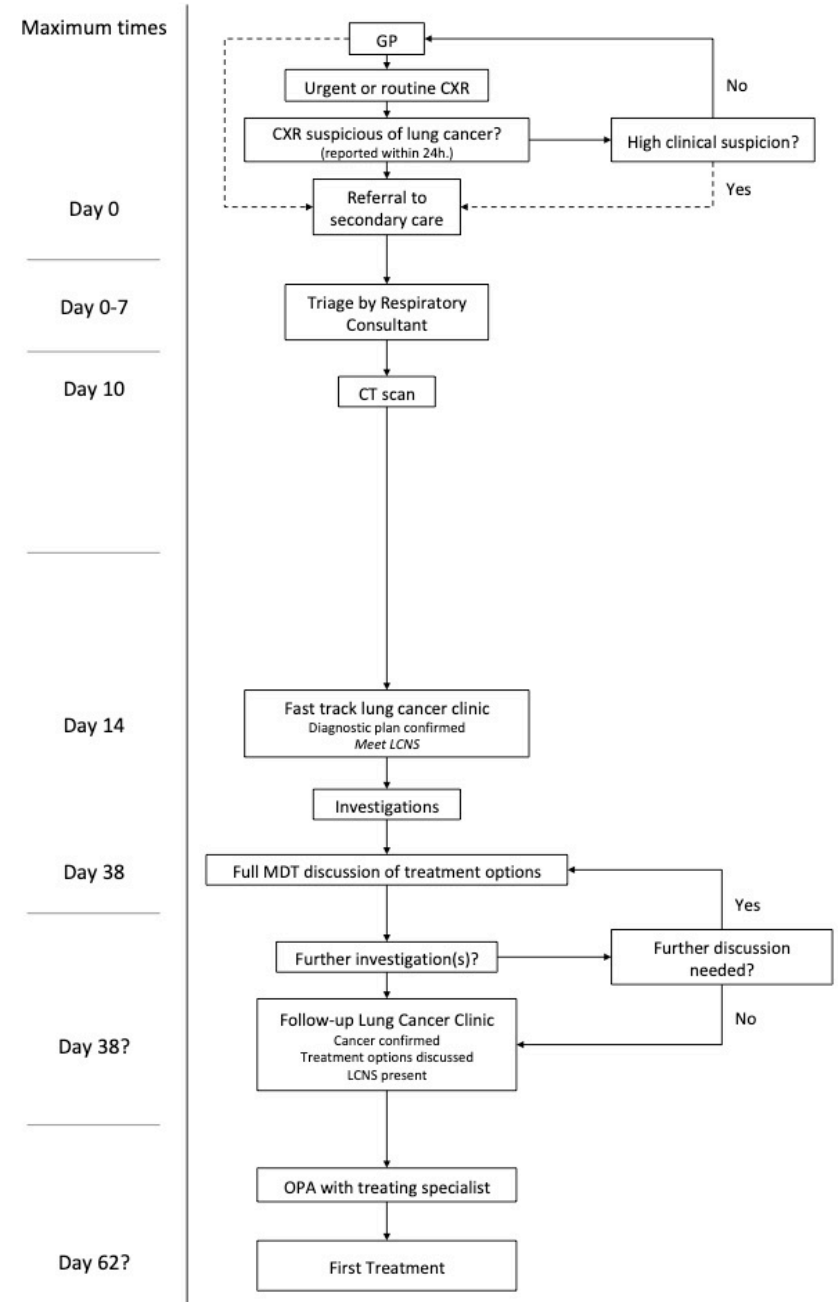
1. Communication

- Respiratory Day Ward
- PDSA cycle

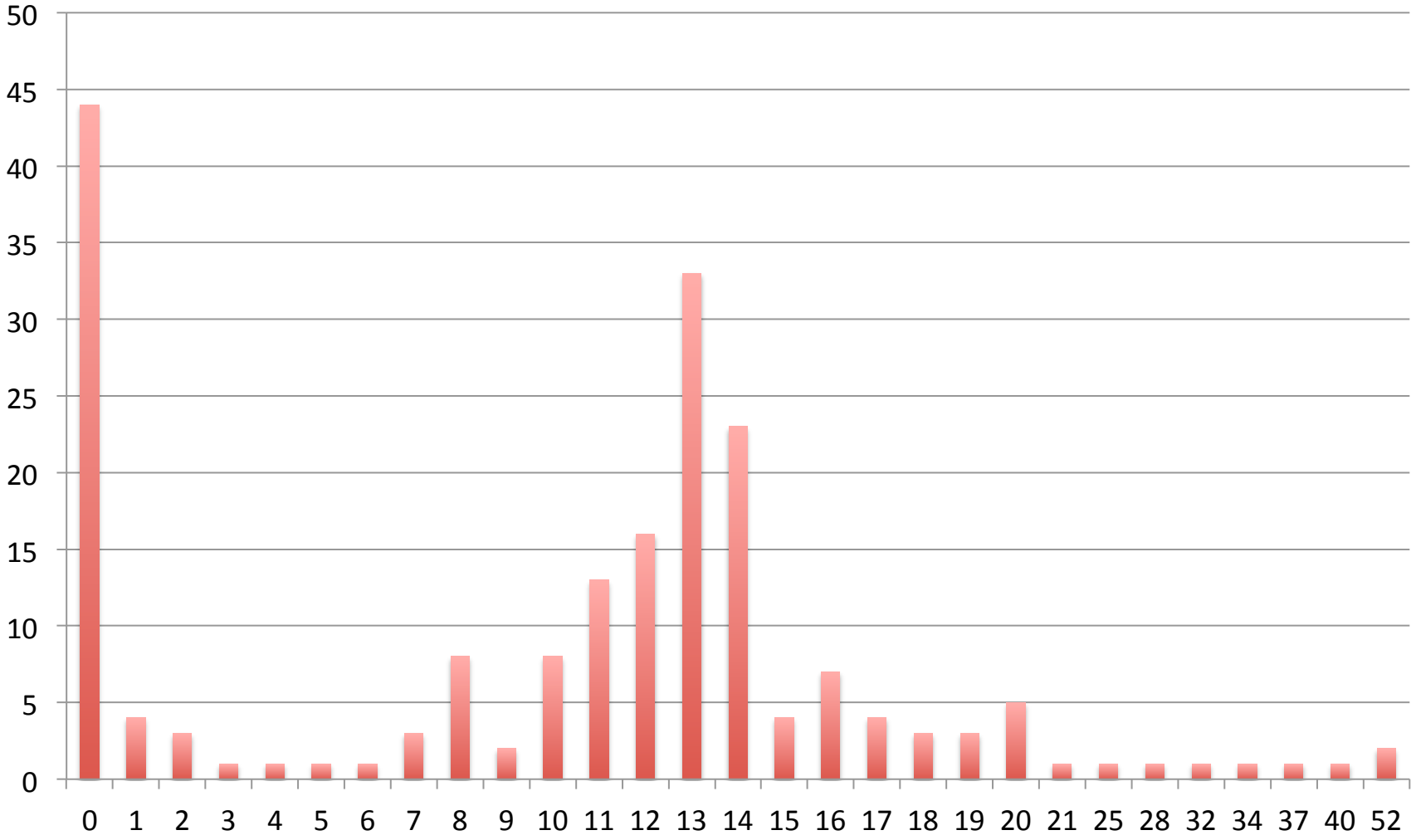
- Small Cell Lung Cancer

2. Improve efficiency (and capacity)

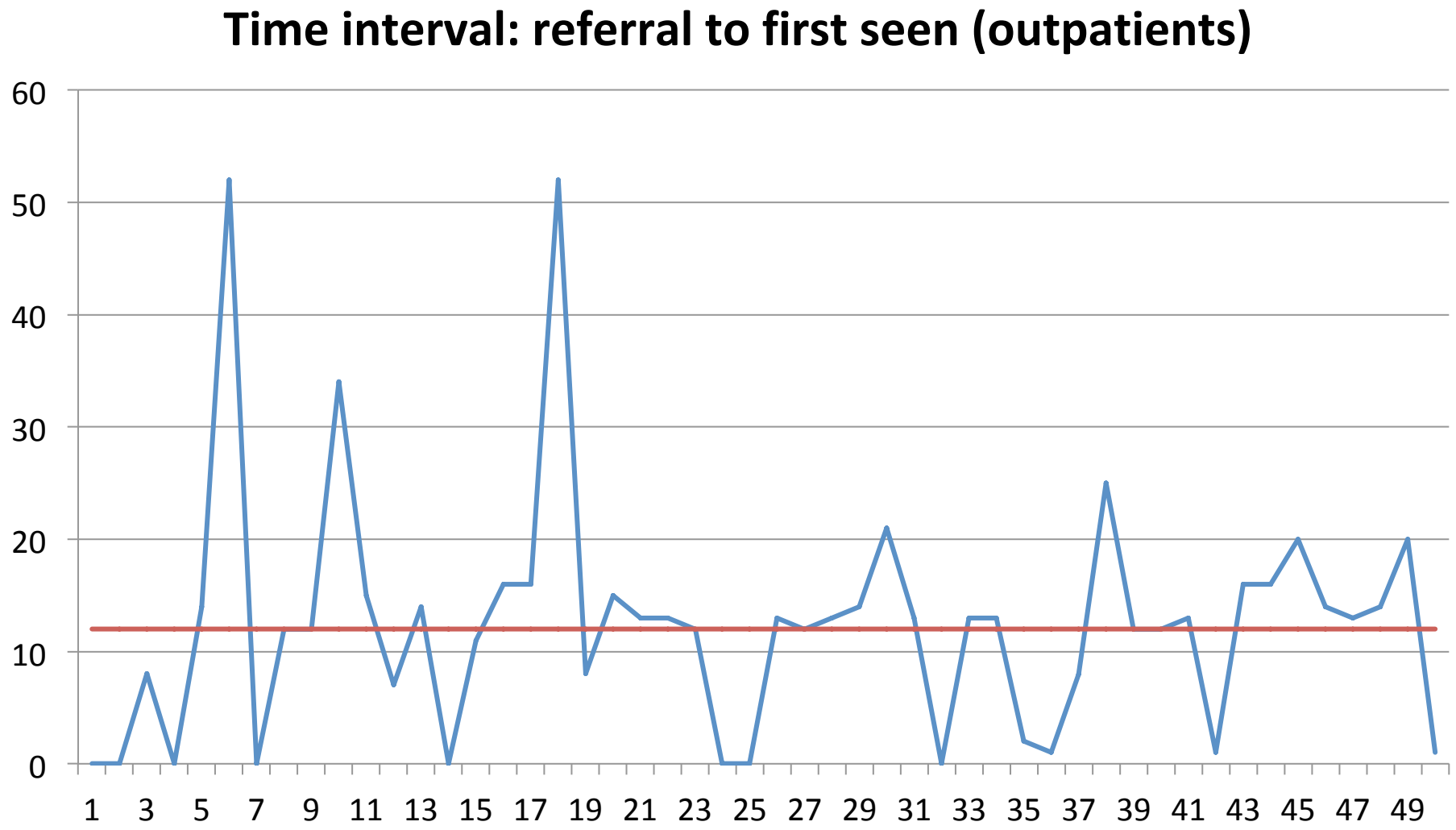
PHT Current Pathway



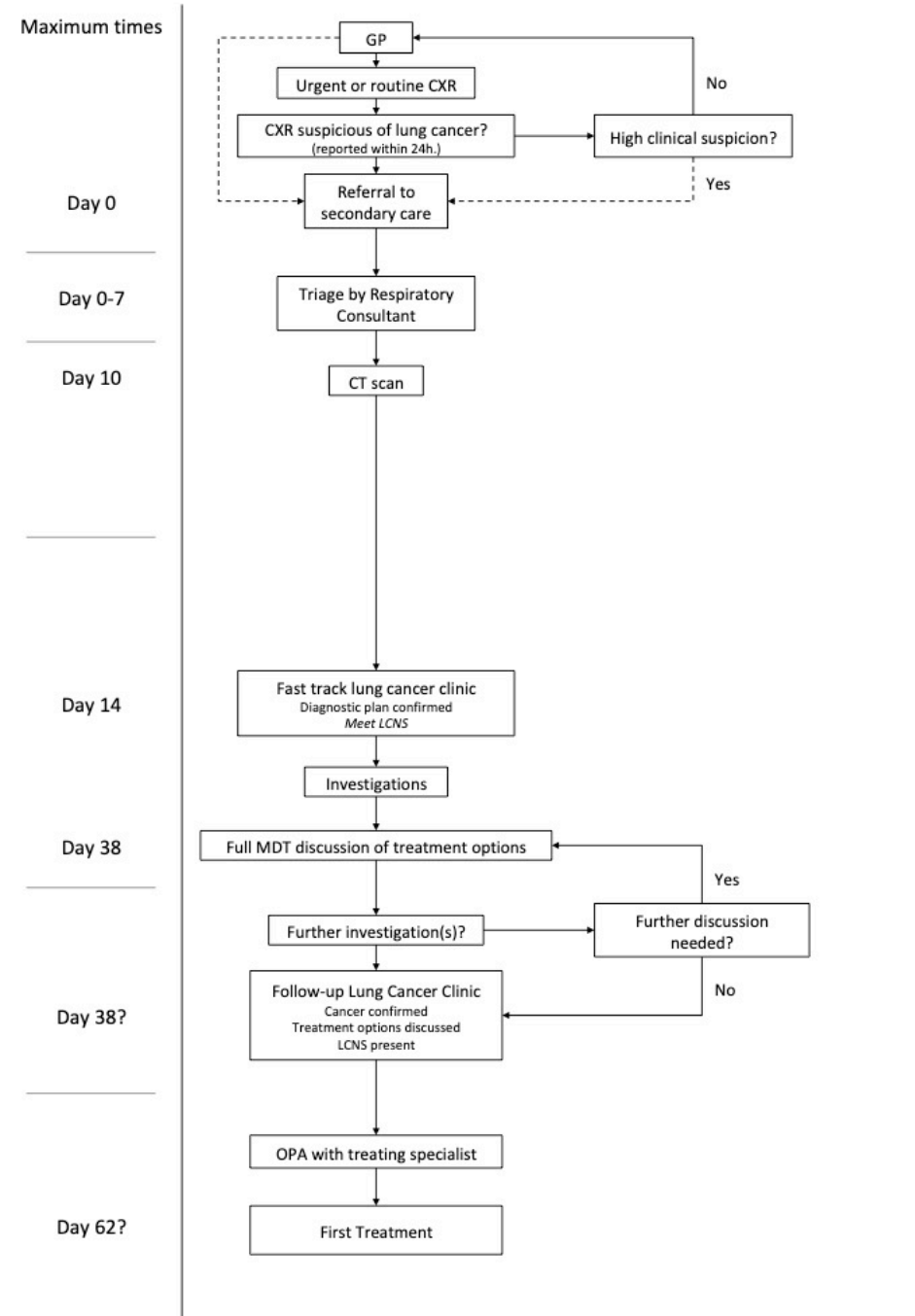
Time (days): Referral to First Seen



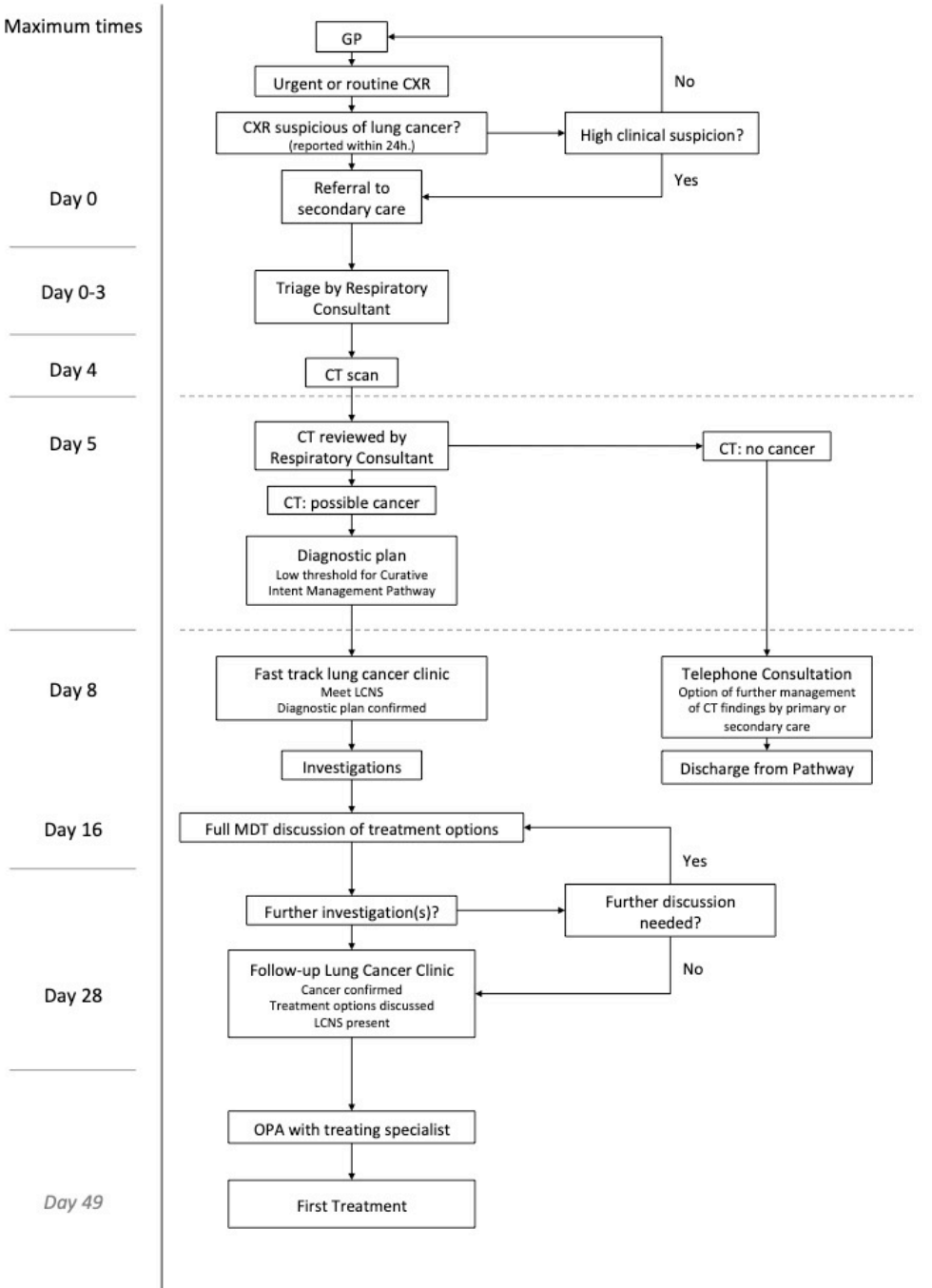
Run Chart

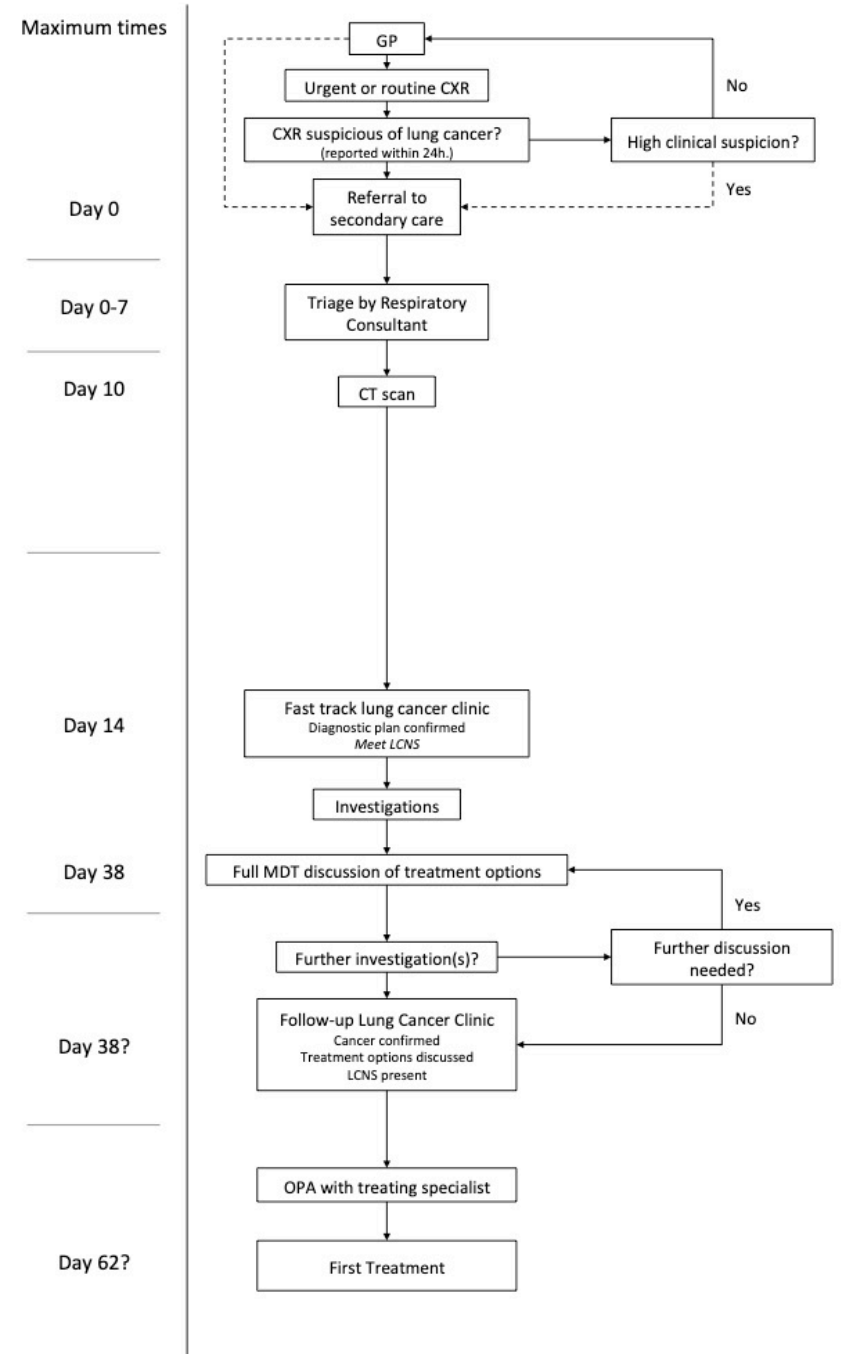

Time interval: referral to first seen (outpatients)
60
50
40
30
20
10
0
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49

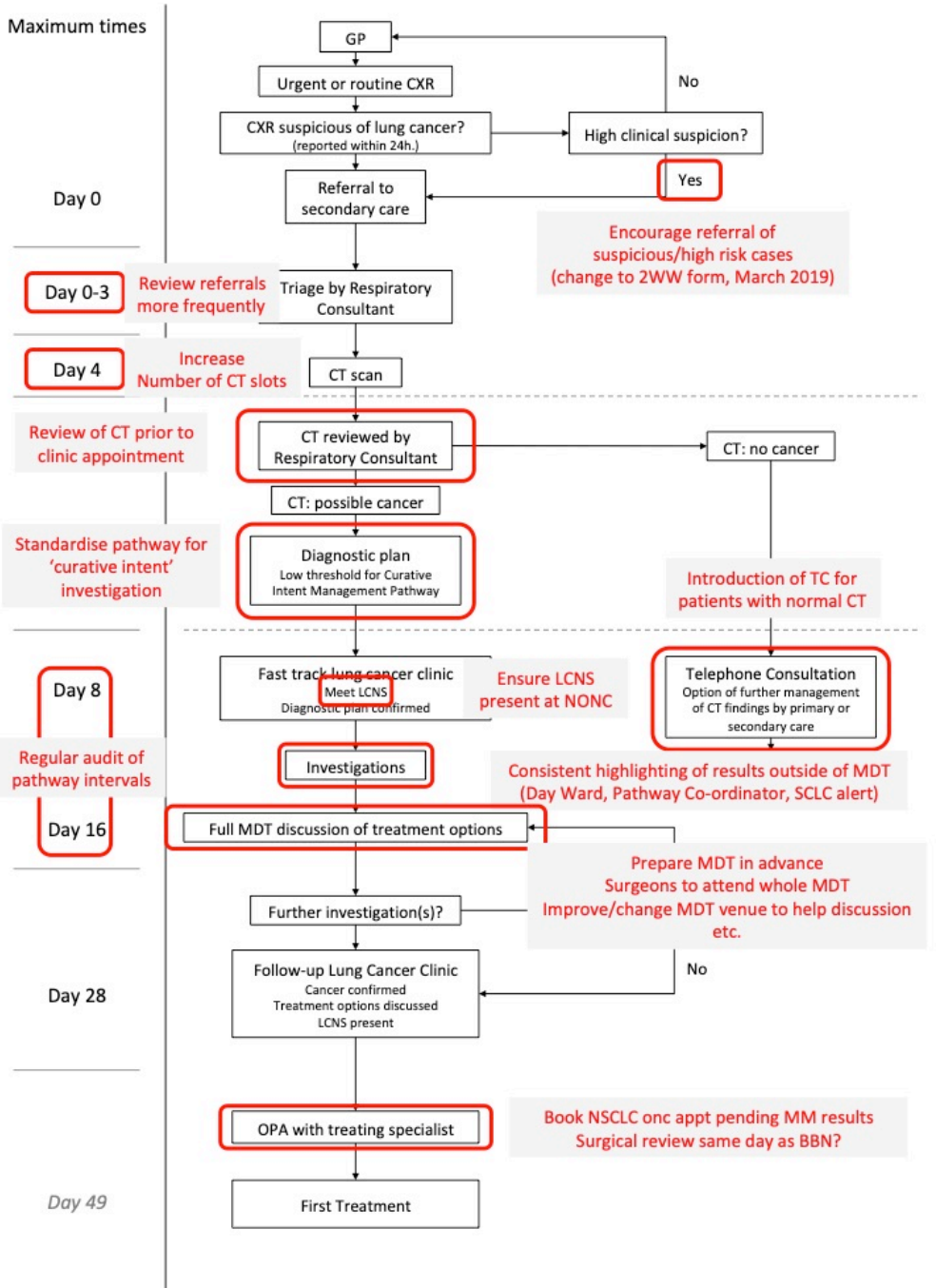
PHT Current Pathway

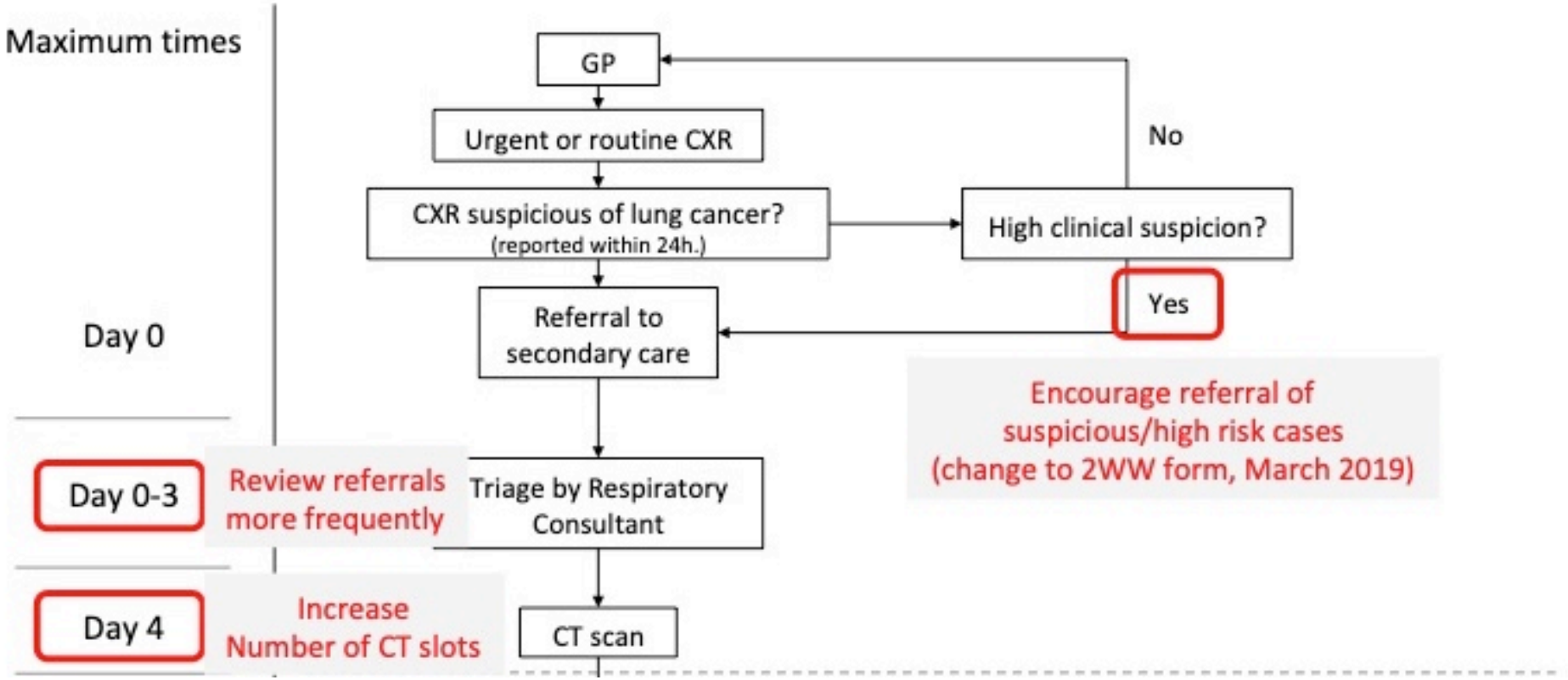


PHT Optimal Lung Cancer Pathway

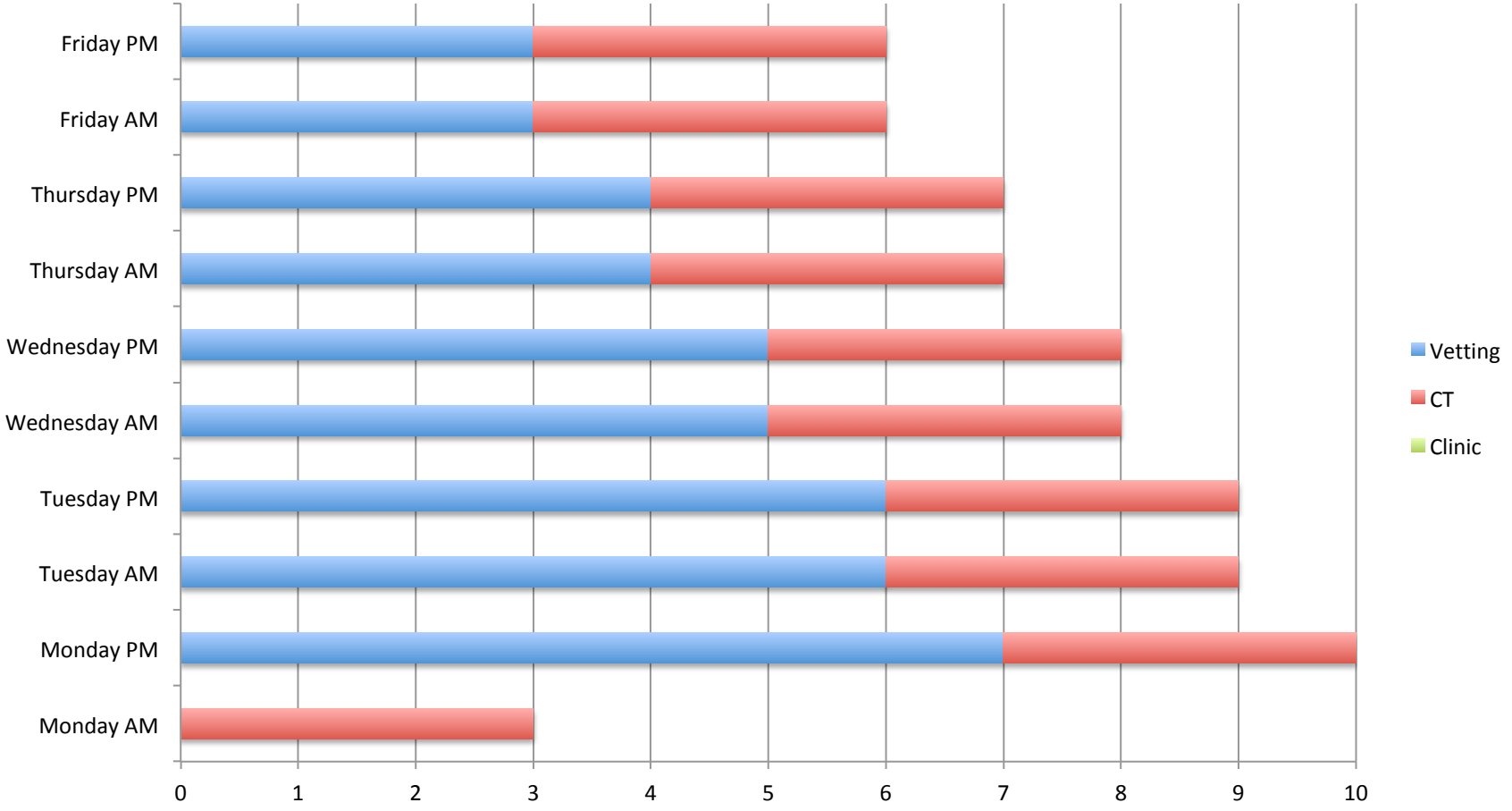


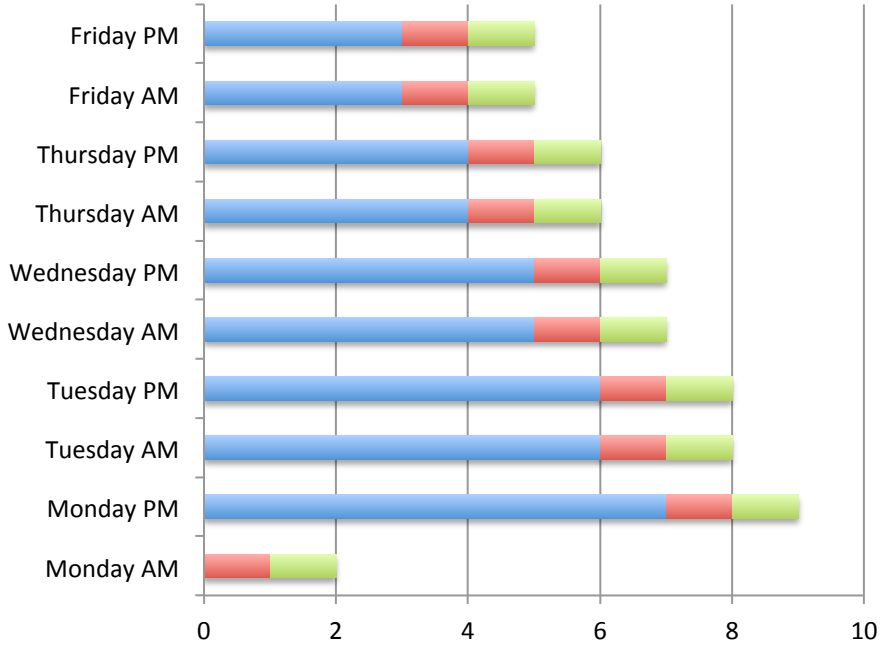

PHT Current Pathway
Maximum times
Day 0
Day 0-7
Day 10
Day 14
Day 38
Day 38?
Day 62?
GP
Urgent or routine CXR
CXR suspicious of lung cancer?
(reported within 24h.)
No
High clinical suspicion?
Yes
Referral to secondary care
Triage by Respiratory Consultant
CT scan
Fast track lung cancer clinic
Diagnostic plan confirmed
Meet LCNS
Investigations
Full MDT discussion of treatment options
Yes
Further investigation(s)?
Further discussion needed?
No
Follow-up Lung Cancer Clinic
Cancer confirmed
Treatment options discussed
LCNS present
OPA with treating specialist
First Treatment

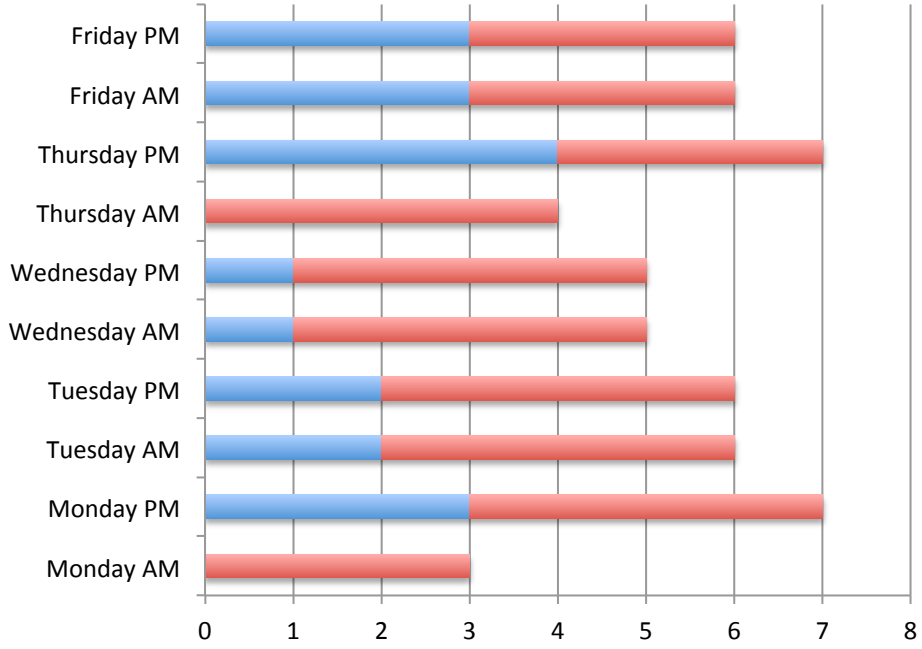

PHT Optimal Lung Cancer Pathway
Maximum times
Day 0
Day 0-3
Day 4
Day 8
Day 16
Day 28
Day 49
GP
Urgent or routine CXR
CXR suspicious of lung cancer?
(reported within 24h.)
No
High clinical suspicion?
Yes
Referral to secondary care
Encourage referral of suspicious/high risk cases (change to 2WW form, March 2019)
Review referrals more frequently
Triage by Respiratory Consultant
Increase Number of CT slots
CT scan
Review of CT prior to clinic appointment
CT reviewed by Respiratory Consultant
CT: no cancer
CT: possible cancer
Standardise pathway for 'curative intent' investigation
Diagnostic plan
Low threshold for Curative Intent Management Pathway
Introduction of TC for patients with normal CT
Fast track lung cancer clinic
Meet LCNS
Diagnostic plan confirmed
Ensure LCNS present at NONC
Telephone Consultation
Option of further management of CT findings by primary or secondary care
Regular audit of pathway intervals
Investigations
Consistent highlighting of results outside of MDT (Day Ward, Pathway Co-ordinator, SCLC alert)
Full MDT discussion of treatment options
Prepare MDT in advance
Surgeons to attend whole MDT
Improve/change MDT venue to help discussion etc.
Further investigation(s)?
No
Follow-up Lung Cancer Clinic
Cancer confirmed
Treatment options discussed
LCNS present
OPA with treating specialist
Book NSCLC onc appt pending MM results
Surgical review same day as BBN?
First Treatment

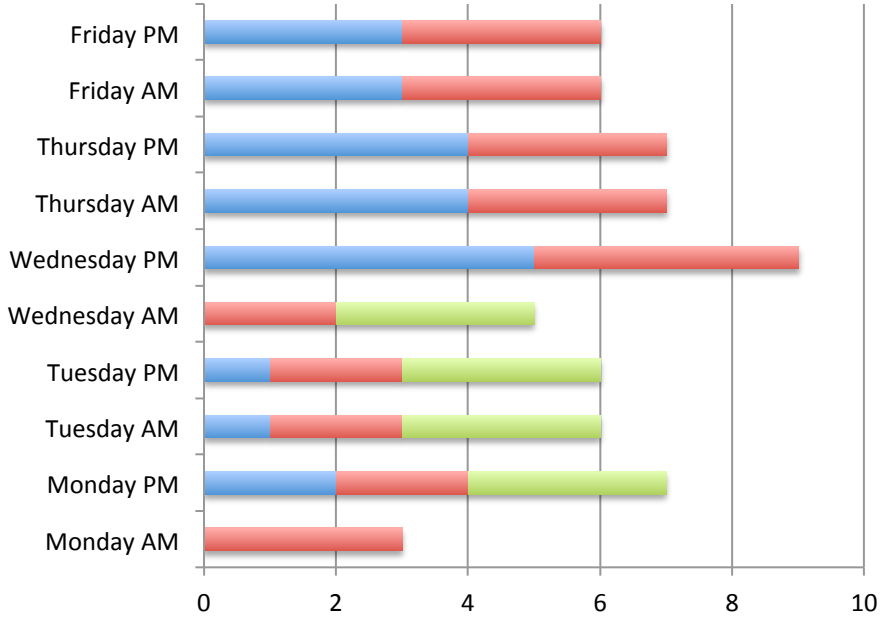

Maximum times
GP
Urgent or routine CXR
CXR suspicious of lung cancer?
(reported within 24h.)
High clinical suspicion?
No
Yes
Day 0
Referral to secondary care
Encourage referral of suspicious/high risk cases (change to 2WW form, March 2019)
Day 0-3
Review referrals more frequently
Triage by Respiratory Consultant
Day 4
Increase Number of CT slots
CT scan

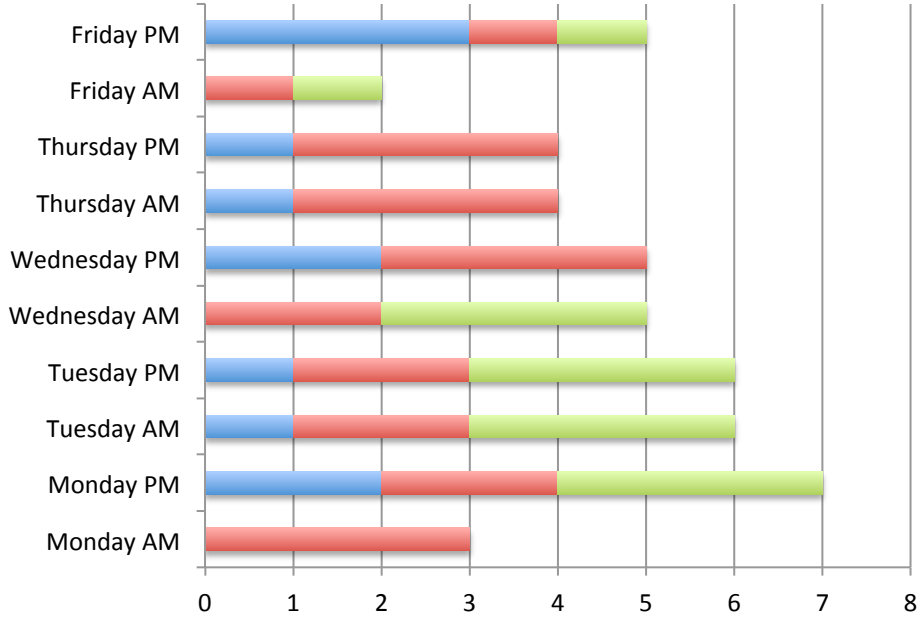
Monday PM: Average 7.3 days



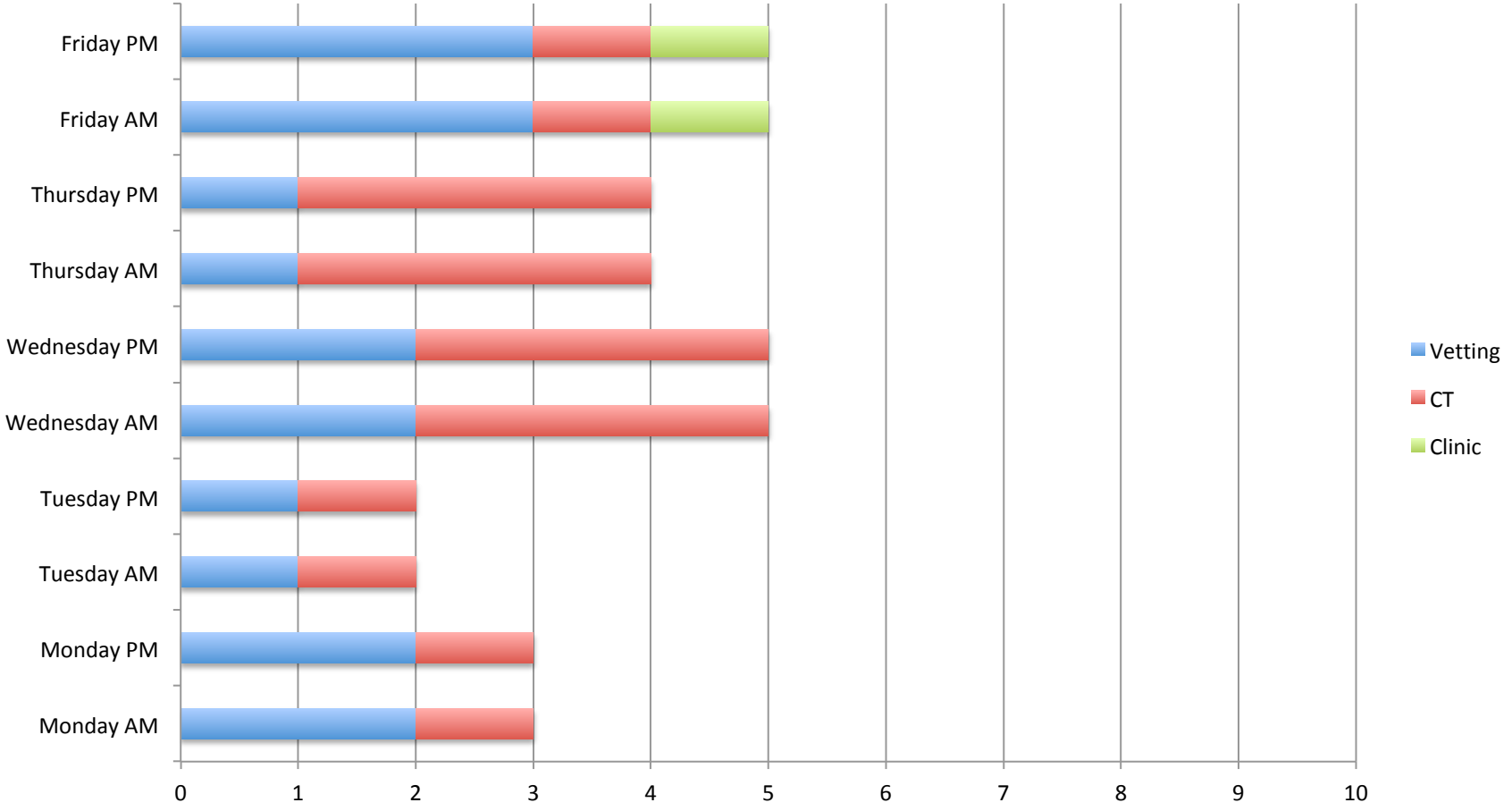

Friday PM
Friday AM
Thursday PM
Thursday AM
Wednesday PM
Wednesday AM
Tuesday PM
Tuesday AM
Monday PM
Monday AM
0
2
4
6
8
10

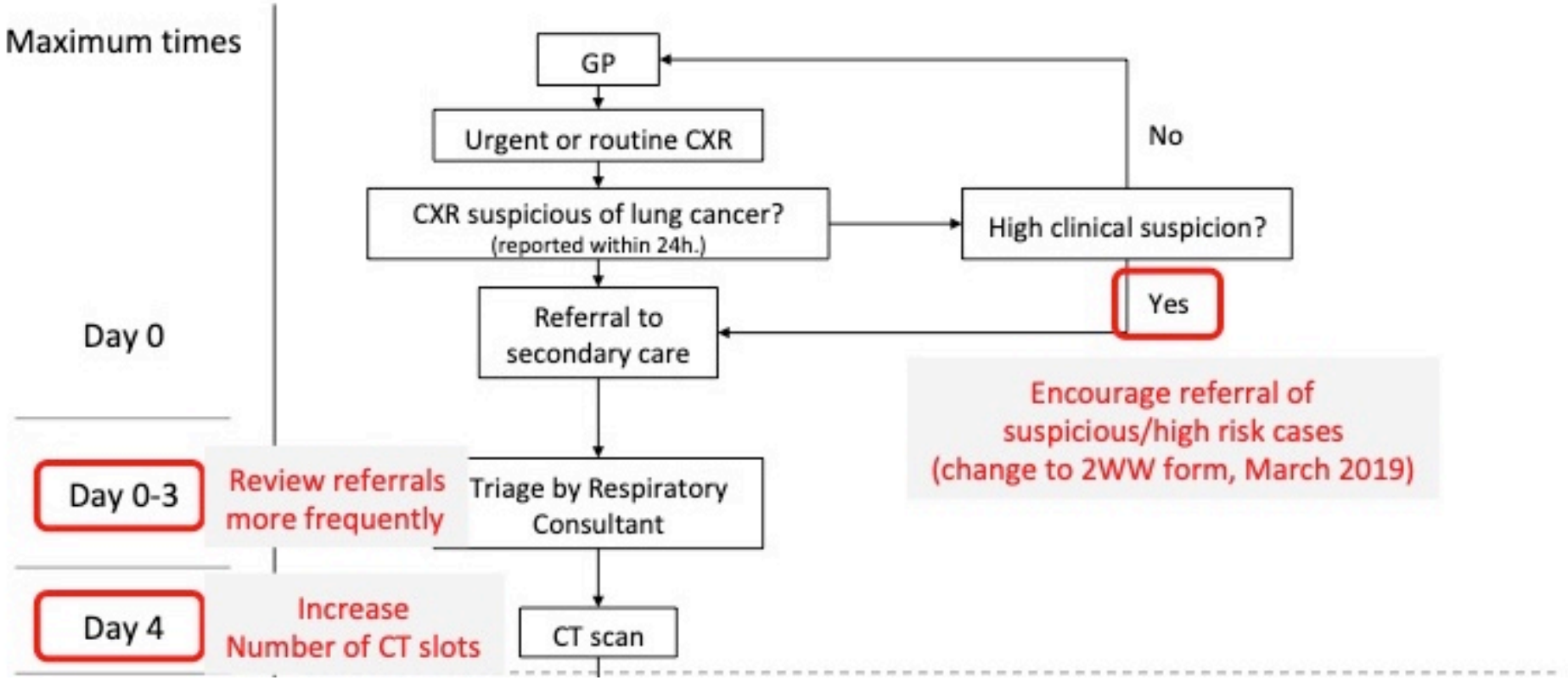

Friday PM
Friday AM
Thursday PM
Thursday AM
Wednesday PM
Wednesday AM
Tuesday PM
Tuesday AM
Monday PM
Monday AM
0
1
2
3
4
5
6
7
8

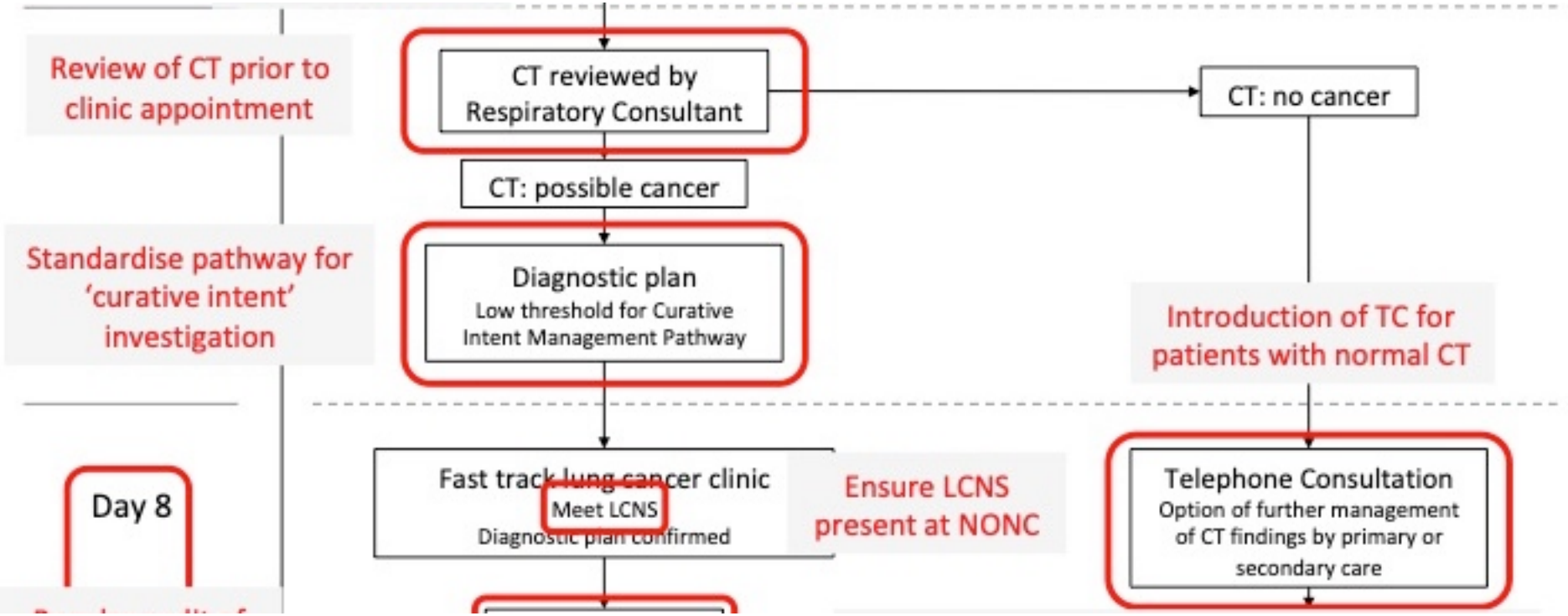

Friday PM
Friday AM
Thursday PM
Thursday AM
Wednesday PM
Wednesday AM
Tuesday PM
Tuesday AM
Monday PM
Monday AM
0
2
4
6
8
10

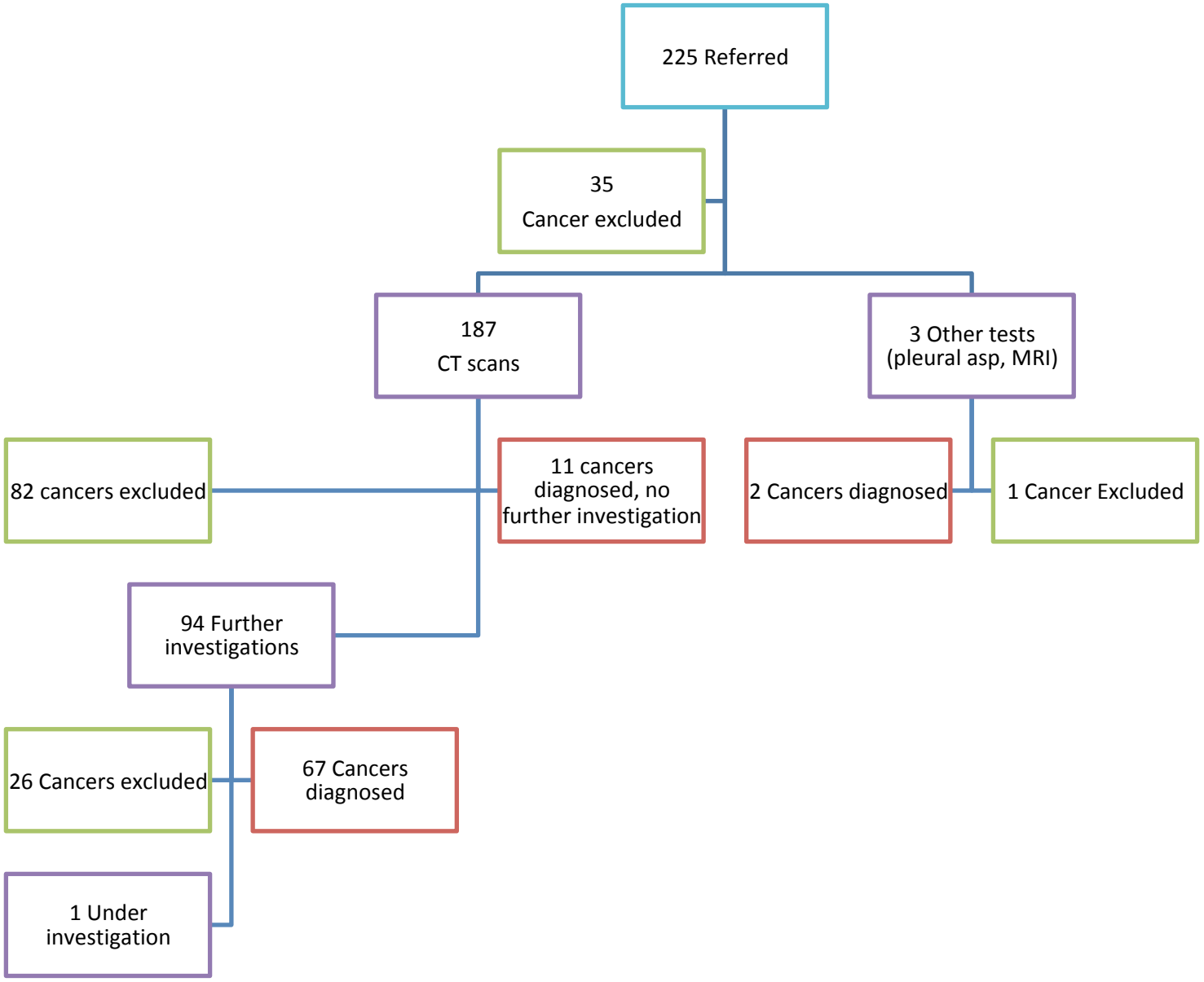

Friday PM
Friday AM
Thursday PM
Thursday AM
Wednesday PM
Wednesday AM
Tuesday PM
Tuesday AM
Monday PM
Monday AM
0
1
2
3
4
5
6
7
8

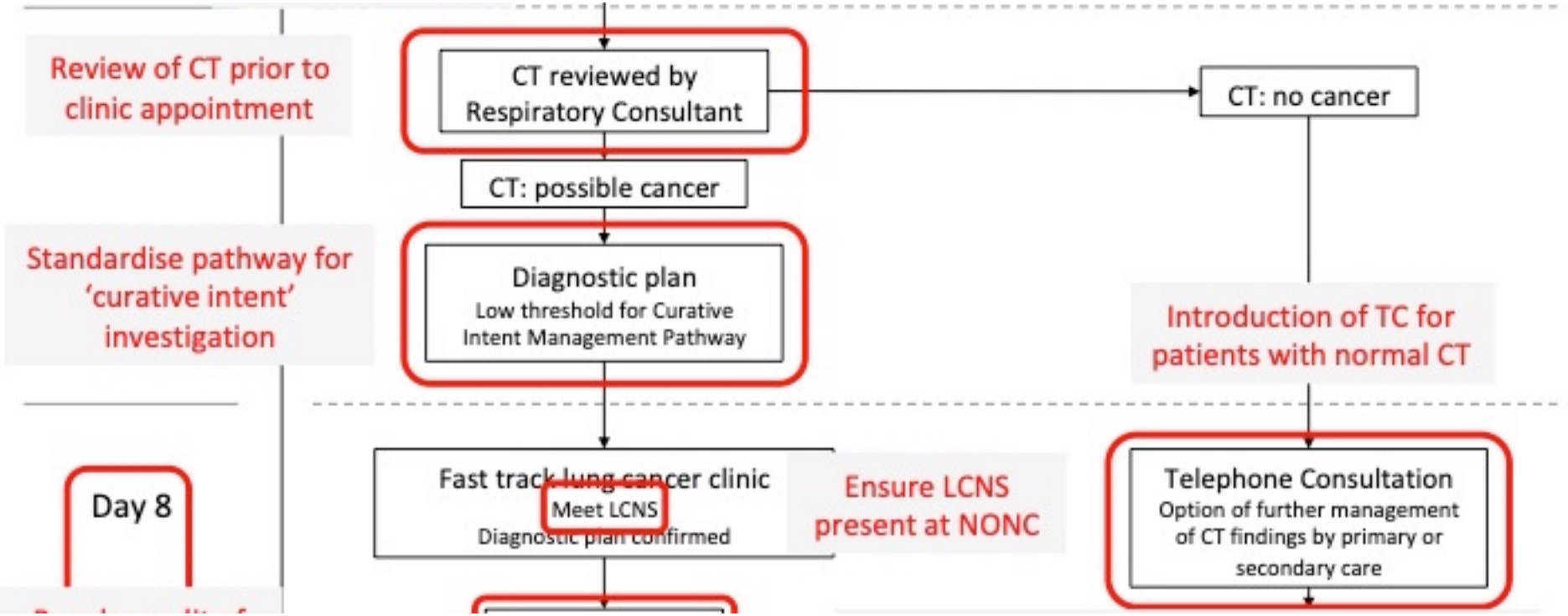
Mon/Wed/Fri AM: Average 3.8 days

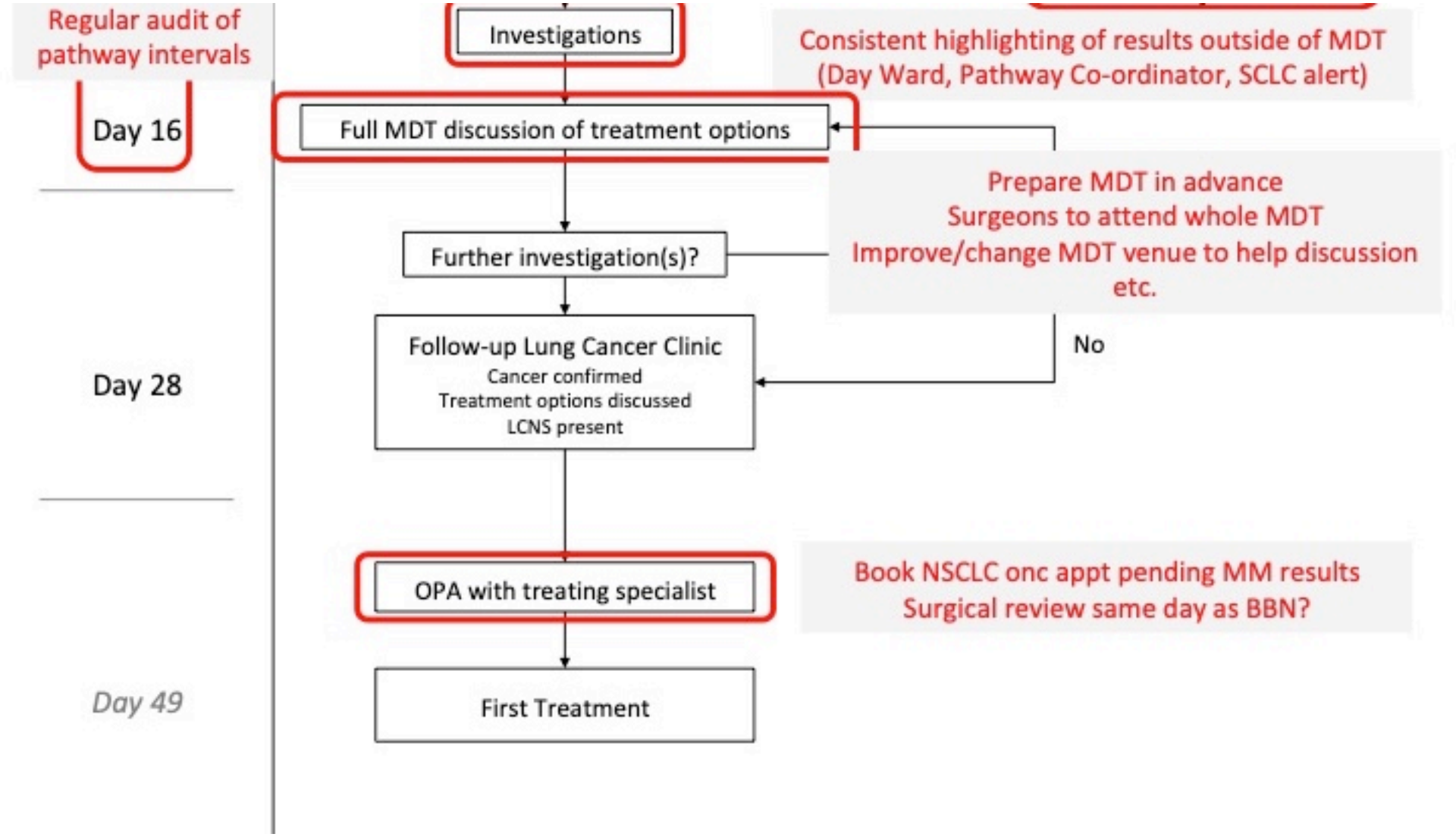



Maximum times
GP
Urgent or routine CXR
CXR suspicious of lung cancer?
(reported within 24h.)
High clinical suspicion?
No
Yes
Day 0
Referral to secondary care
Encourage referral of suspicious/high risk cases (change to 2WW form, March 2019)
Day 0-3
Review referrals more frequently
Triage by Respiratory Consultant
Day 4
Increase Number of CT slots
CT scan

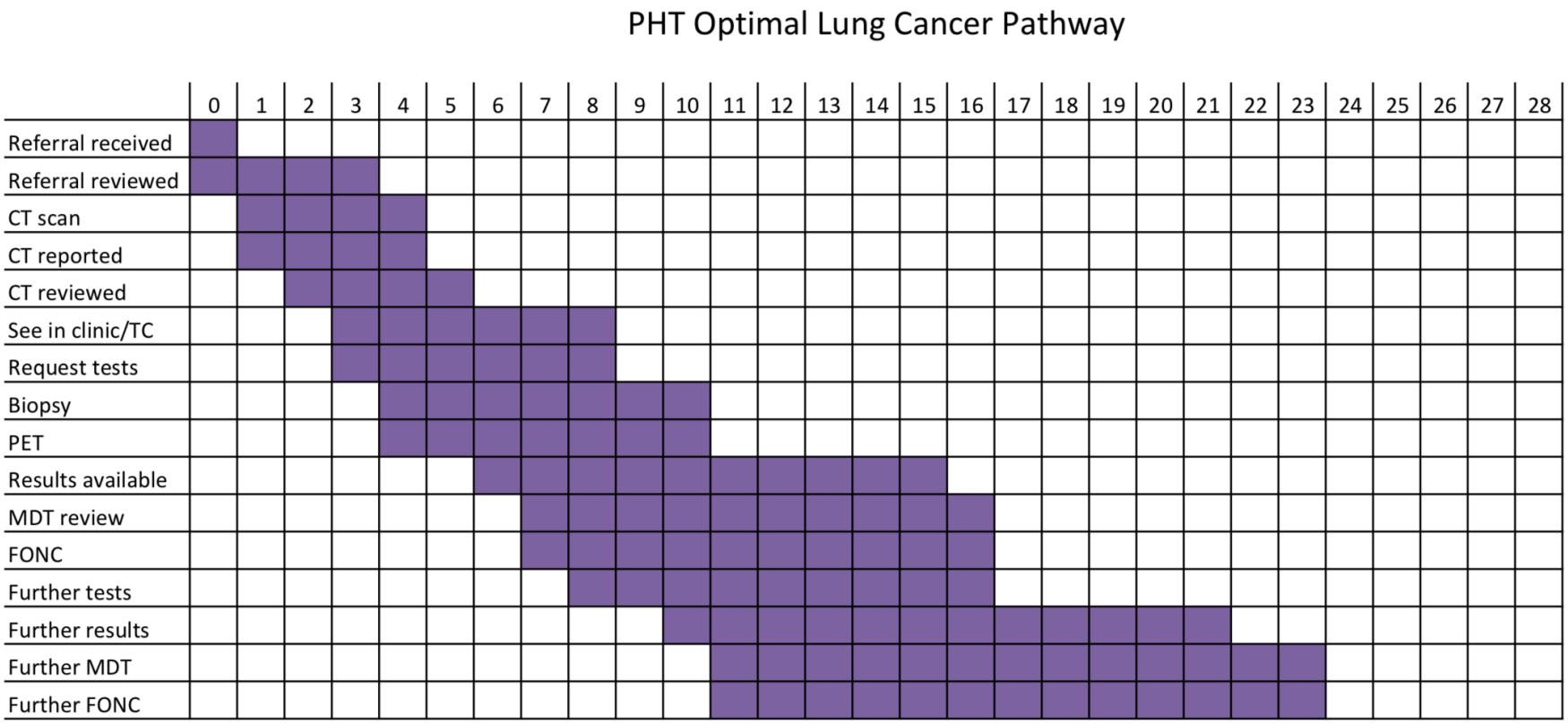

Review of CT prior to clinic appointment
CT reviewed by Respiratory Consultant
CT: no cancer
CT: possible cancer
Standardise pathway for 'curative intent' investigation
Diagnostic plan
Low threshold for Curative Intent Management Pathway
Introduction of TC for patients with normal CT
Day 8
Fast track lung cancer clinic
Meet LCNS
Diagnostic plan confirmed
Ensure LCNS present at NONC
Telephone Consultation
Option of further management of CT findings by primary or secondary care


225 Referred
35
Cancer excluded
187
CT scans
3 Other tests
(pleural asp, MRI)
82 cancers excluded
11 cancers
diagnosed, no
further investigation
2 Cancers diagnosed
1 Cancer Excluded
94 Further
investigations
26 Cancers excluded
67 Cancers
diagnosed
1 Under
investigation


Review of CT prior to clinic appointment
CT reviewed by Respiratory Consultant
CT: no cancer
CT: possible cancer
Standardise pathway for 'curative intent' investigation
Diagnostic plan
Low threshold for Curative Intent Management Pathway
Introduction of TC for patients with normal CT
Day 8
Fast track lung cancer clinic
Meet LCNS
Diagnostic plan confirmed
Ensure LCNS present at NONC
Telephone Consultation
Option of further management of CT findings by primary or secondary care


Regular audit of pathway intervals
Day 16
Day 28
Day 49
Investigations
Consistent highlighting of results outside of MDT (Day Ward, Pathway Co-ordinator, SCLC alert)
Full MDT discussion of treatment options
Prepare MDT in advance
Surgeons to attend whole MDT
Improve/change MDT venue to help discussion etc.
Further investigation(s)?
No
Follow-up Lung Cancer Clinic
Cancer confirmed
Treatment options discussed
LCNS present
OPA with treating specialist
Book NSCLC onc appt pending MM results
Surgical review same day as BBN?
First Treatment

Gantt Chart


PHT Optimal Lung Cancer Pathway
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Referral received
Referral reviewed
CT scan
CT reported
CT reviewed
See in clinic/TC
Request tests
Biopsy
PET
Results available
MDT review
FONC
Further tests
Further results
Further MDT
Further FONC

3. Early Detection

- ???

- New, standardised 2WW referral form
- GP Education
- Other community opportunities (Respiratory nurses, pharmacists)
- Identifying ‘high risk’ patients

What have I learnt?

- I don’t want to be a researcher
- We can all identify problems
- Change can be difficult
- Relationships are key
- QI is really interesting

The proof of the pudding...

Thank you

qualityimprovement.WX@hee.nhs.uk