

How should General Practice consider patients with respiratory issues in a time of Covid-19

Dr Matthew Fay

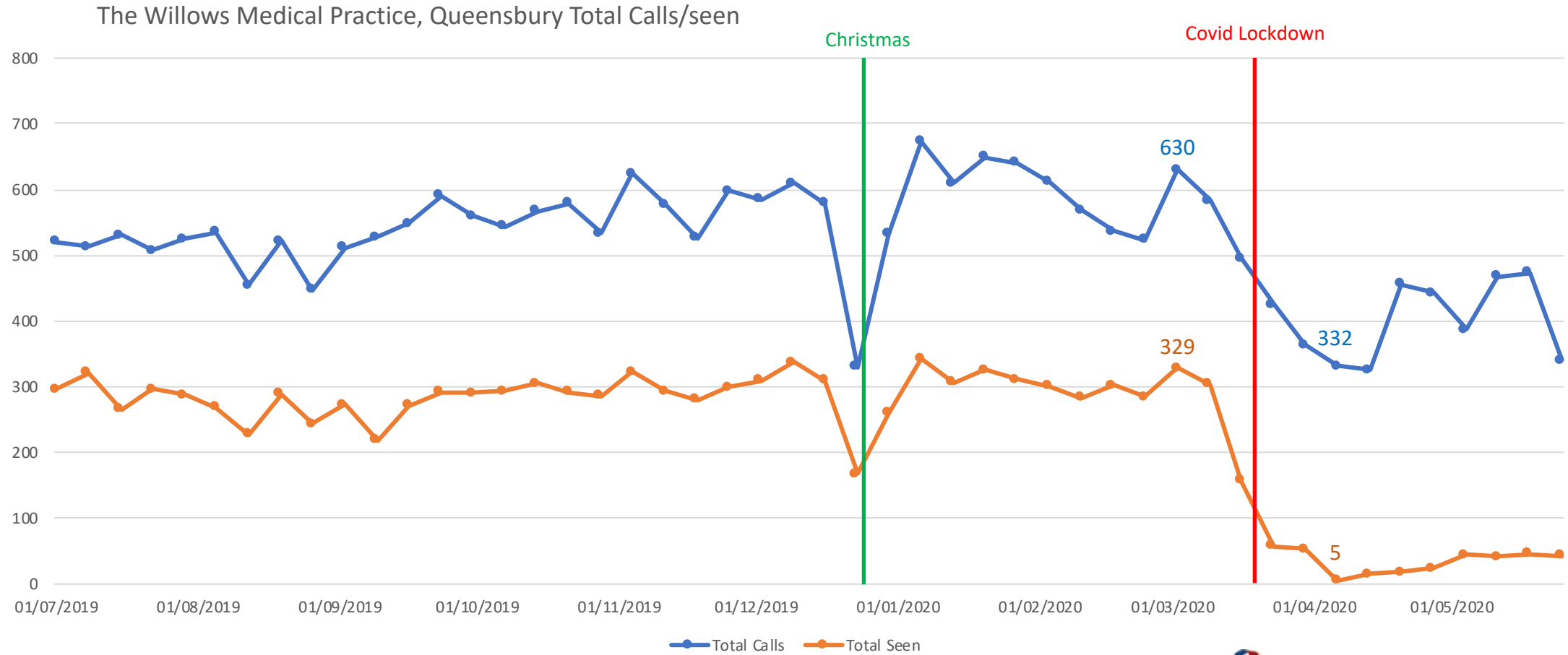
GP Principal Bradford West Yorkshire

Trustee Thrombosis UK

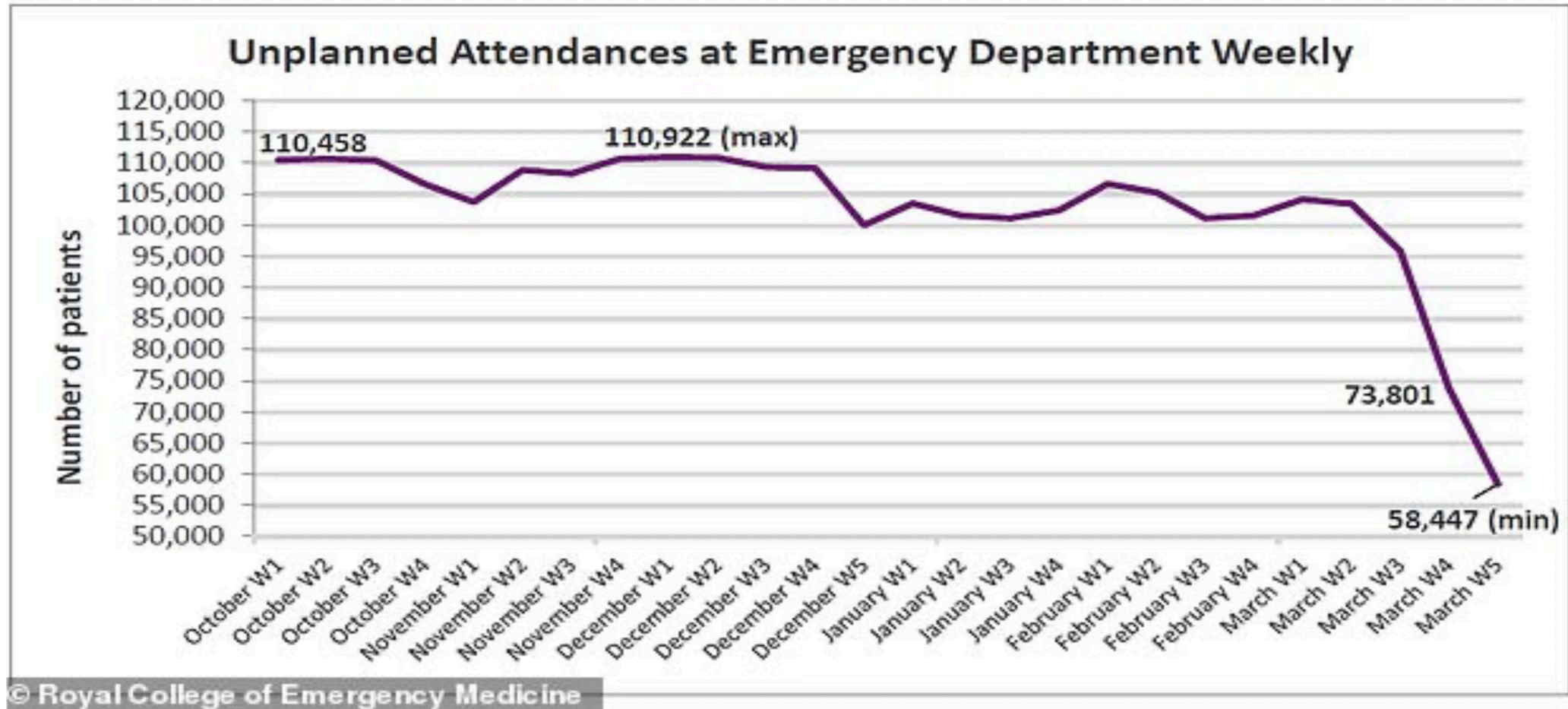
Executive Primary Care Cardiovascular Society



A change to activity in the NHS

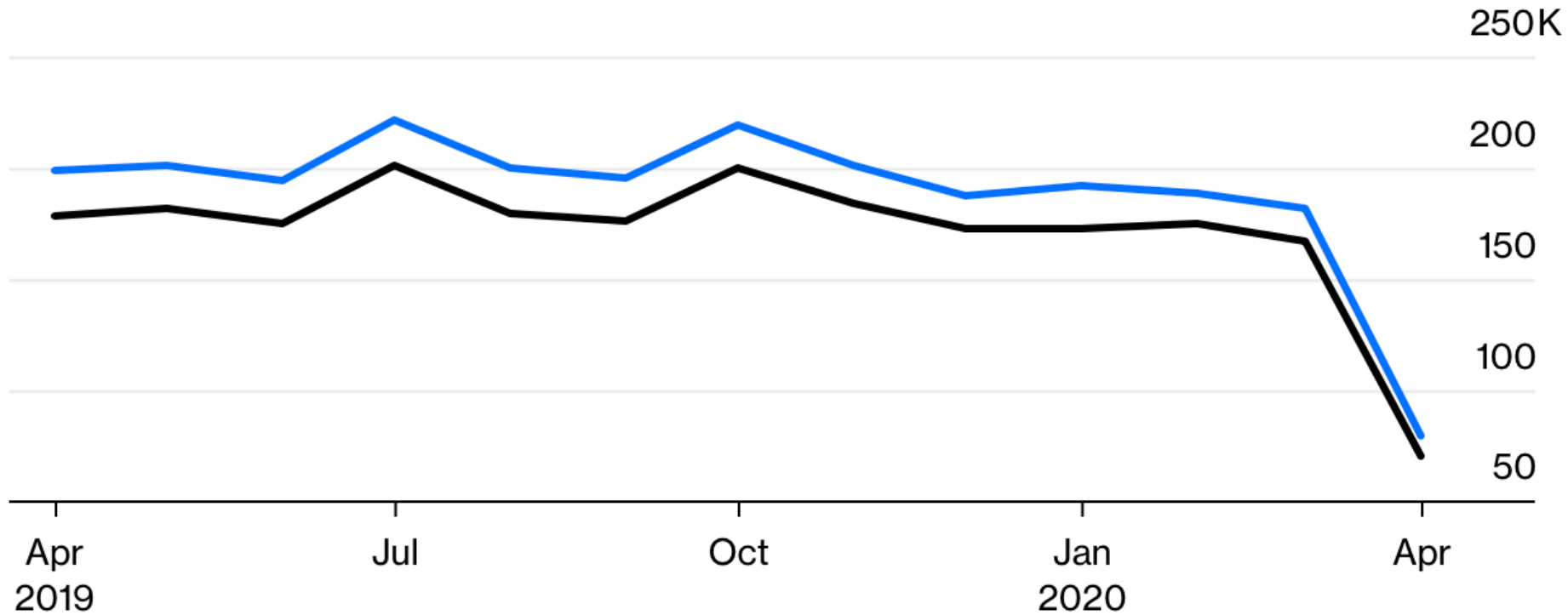


A change to activity in the NHS



A change to activity in the NHS

Patients seen by a cancer specialist / Seen within 14 days



Source: NHS England

Note: Oct. 2019-April 2020 data is provisional.

A change to presentation

System	Acute	Chronic
Cardiovascular	Acute Pulmonary Oedema	Chronic Heart Failure Myocardial Ischaemia
Respiratory	Acute severe asthma Acute exacerbation COPD Pneumothorax Pneumonia Pulmonary embolism ARDS Inhaled foreign body Lobar Collapse Laryngeal Oedema	Chronic Asthma COPD Bronchial Carcinoma Interstitial Lung Disease Chronic Pulmonary VTE Metastatic Cancer Pleural Effusion
Other	Metabolic Acidosis Psychogenic Hyperventilation	Severe Anaemia Obesity Deconditioning

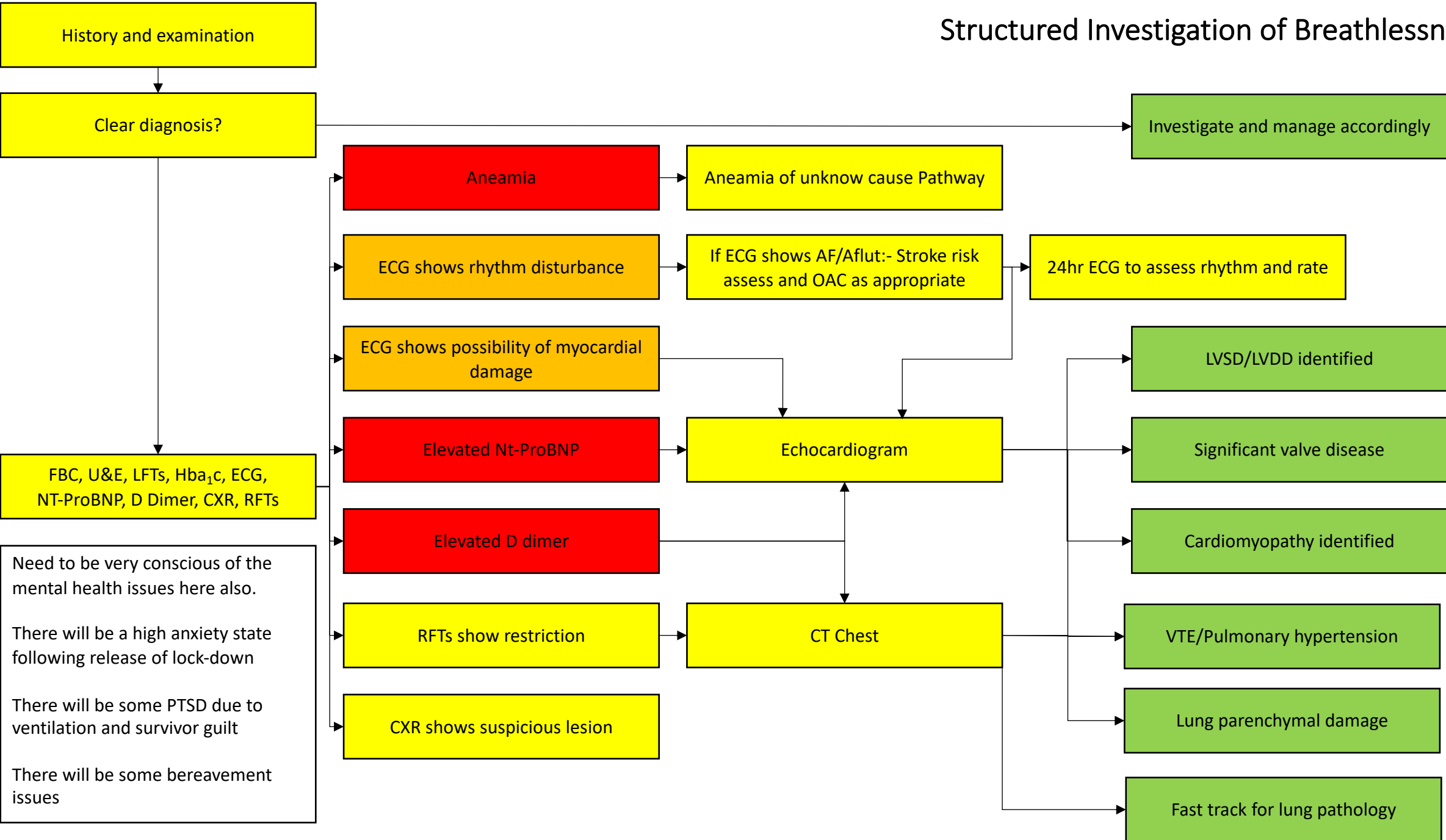
A change to presentation

Condition	History	Signs	CXR	ABG	ECG
Pulmonary Oedema	Chest pain, palpitations, orthopnoea, cardiac PH	Central Cyanosis, ↑JVP, Sweating, cool extremities, basal crepitations	Cardiomegally, oedema/pleural effusion	↓ PaO ₂ ↓ PaCO ₂	Sinus tachycardia Ischaemia Arrhythmia
Massive Pulmonary Embolism	Risk Factors, chest pain, pleurisy, syncope, Dizziness (hypotension)	Central Cyanosis, ↑JVP, absence of signs in the lungs, Shock	Often normal, prominent hilar vessels, oligoemic lung fields	↓ PaO ₂ ↓ PaCO ₂	Sinus tachycardia RBBB S ₁ Q ₃ T ₃
Acute Severe Asthma	History of Asthma, asthma medications, wheeze	Tachycardia, pulsus paradoxus, Cyanosis, JVP→ ↓PEFR, wheeze	Hyperinflation only	↓ PaO ₂ ↓ PaCO ₂ (↑ PaCO ₂ in extremis)	Sinus tachycardia (Sinus bradycardia in extremis)
Acute Exacerbation of COPD	Previous episodes, smoker	Cyanosis, hyperinflation, signs of CO ₂ retention	Hyperinflation, bullae, complicating pneumothorax	↓ or ↓↓ PaO ₂ ↑ PaCO ₂ in type II failure	Normal or signs of right ventricular strain
Pneumonia	Prodromal illness, fever, rigors, pleurisy	Fever, confusion, pleural rub, consolidation, cyanosis (if severe)	Pneumonic consolidation	↓ PaO ₂ ↓ PaCO ₂ (↑ PaCO ₂ in extremis)	Tachycardia
Pyschogenic	Previous episodes, digital or perioral paraesthesia	No cyanosis, no heart or lung signs, carpopdal spasm	Normal	Normal PaO ₂ ↓↓ PaCO ₂	

A change to presentation

Has the acute episode been missed due to late presentation?

Structured Investigation of Breathlessness

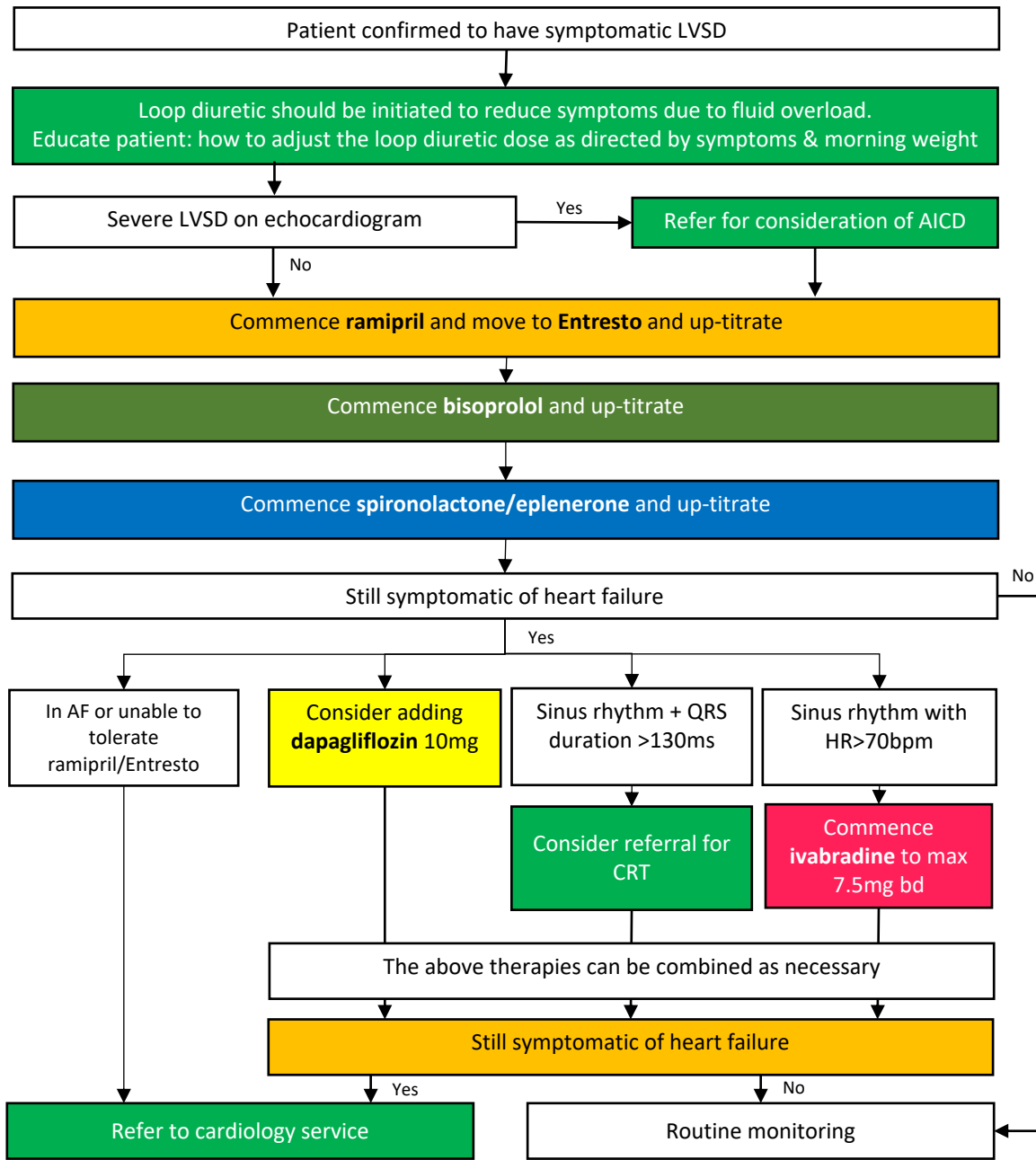




A quick word about LVSD

- Missed acute MI during lock down
- Poor hypertension management
- Poor levels of activity
- LVSD intervention has been reduced during lockdown
- Initial fears around RAAS inhibition may have lead to poor adherence

Managing of LVSD: management



***Initiating Spironolactone**
 Continue treatment and monitor U&Es at:
 2w→4w→8w→12w→6m→9m→12m
 Thereafter 6 monthly U&E

Spironolactone should be stopped if
 Cr <200umol Or NO increase >50% from baseline or if the potassium is >5.5mmol

- New York Heart Association symptom grading**
- NYHA I - No symptoms
 - NYHA II - Mild symptoms (e.g. walking)
 - NYHA III - Marked limitation
 - NYHA IV - Severe limitation (e.g. at rest)

- Reasons for early referral to cardiology team**
- You feel unsure about how to proceed
 - Uncertain aetiology of LVSD
 - Issues with symptom management
 - <55yrs where transplant maybe considered
 - LVSD due to cardiomyopathy
 - LVSD caused by AF
 - Hypotension due to pump failure or iatrogenic
 - Resting bradycardia
 - Complex comorbidities, particular ≥ CKD3
 - Complex emotional or social issues

Medication switches

Ramipril
 Issues with ACEI cough: Ramipril should be discontinued and switch to Entresto.
If issues with renal decline or angioneurotic oedema then Entresto should NOT be started; seek advice

Bisoprolol
 Issues with hypotension, fatigue or sensitivity: replace bisoprolol with ivabradine and up titrate to 7.5mg bd determined by heart rate.
Ivabradine cannot be used in AF

Spironolactone
 Issues with breast development or lactation: switch to eplerenone and up titrated in the same manner.
This change will not resolve issues with elevated serum potassium or renal decline

- All those with LVSD should be offered:**
- Ramipril moving to Entresto
 - Bisoprolol +/- Ivabradine to optimize HR
 - Sinus rhythm 50-65bpm
 - AF 80-110bpm
 - Spironolactone/Eplerenone 50mg
 - Systolic Blood Pressure should not be consistently <110mmHg
 - Creatinine <200umol or NO increase >50% from baseline
 - Potassium >5.5mmol

All those in AF with LVSD should be offered anticoagulation as this is a very powerful stroke risk feature of CHA₂DS₂VASc

Sequence of LVSD Medicine Management

Initiate **ramipril** then on to **Entresto**

Initiate **ramipril** 2.5mg od

*Check U&Es & BP at 2 weeks

Stop **ramipril** for 48 hrs then switch to **Entresto** 24mg/26mg bd

*Check U&Es & BP at 3 weeks

If BP & U&Es acceptable increase **Entresto** to 49mg/51mg bd

*Check BP at 3 weeks

If BP & U&Es acceptable increase **Entresto** to 97mg/103mg bd

*Check U&Es & BP at 3 weeks

Initiate **bisoprolol**

Initiate **bisoprolol** 1.25mg od

Check HR, BP, side effects at 2-4 weeks.
If HR>50bpm & systolic BP >100mmhg

Increase **bisoprolol** 2.5mg od

Check HR, BP, side effects at 2-4 weeks.
If HR>50bpm & systolic BP >100mmhg

Increase **bisoprolol** 5mg od

Check HR, BP, side effects at 2-4 weeks.
If HR>50bpm & systolic BP >100mmhg

Increase **bisoprolol** 10mg od

Check HR, BP, side effects at 2-4 weeks.
If HR>50bpm & systolic BP >100mmhg

Initiate **spironolactone**

If Cr <200 μ mol, K<5.0 mmol
Initiate **spironolactone** at 25mg (12.5mg if frail)

Check U&Es & BP at 2 weeks

If Cr <200 μ mol, K<5.5 mmol
Increase **spironolactone** to 50mg (25mg if frail)

- Cr <200umol or NO increase >50% from baseline
- K <5.5mmol
- No diarrhoea / vomiting

Continue treatment and monitor U&Es at:
2w→4w→8w→12w→6m→9m→12m
Thereafter 6 monthly U&E

Ivabradine

If despite up titration of bisoprolol to 10mg (or maximum tolerated dose) then consider ivabradine 2.5mg and up titrate as tolerated to 7.5mg to achieve a resting HR of 50-65bpm

If issues with hypotension, fatigue or sensitivity: replace bisoprolol with ivabradine and up titrate to 7.5mg bd determined by heart rate.

Ivabradine cannot be used in AF

ACUTE USE OF DIURETICS FOR EXACERBATIONS

Sudden increase in weight (>1Kg above dry weight sustained over 2 days) +/- increasing by oedema +/- breathlessness

Increase **furosemide** by 40mg (or **bumetanide** by 1mg)

Maintain dose change for 3 days

Check with patient, if:

- Return to dry weight then return to previous dose
- No change maintain for further 3 days
- On going deterioration then consider alternative intervention

If patient deteriorate again within 2-3 weeks, then consider making the dose increase in loop diuretic permanent

*Continue dose increase if:

- Cr <200umol or NO increase >50% from baseline
- K<5.5mmol
- Systolic blood pressure >100mmHg
- No symptoms orthostatic hypotension