

## BACKGROUND

Pulmonary embolism (PE) is one of the important causes of morbidity and mortality. Computed tomography pulmonary angiography (CTPA) remains the investigation of choice for detecting PE.

## AIM

1. Rapid and accurate diagnosis of PE is important for further management and discharge.
2. To minimise costs.
3. To minimise risk of unnecessary irradiation and IV contrast.

## STANDARDS

1. CTPA should be performed and reported within 24 hours of receipt of request [1].
2. British Thoracic Society suggested that only 25% of patients with suspected PE have the confirmed disease [2].
3. National Confidential Enquiry into Patient Outcome and Death (NCEPOD) recommended that CTPA report should include the presence or absence of right ventricular strain [3].

## TARGET

100% of patients with suspected PE should have CTPA performed and reported within 24 hours and the report should include presence or absence of right heart strain.

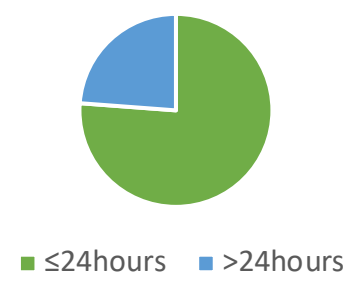
## METHODOLOGY

Retrospective data was searched on PACS from January 2019 to February 2020 (total sample size of 1680). Data was exported to Excel and RAND formula assigned to each patient to ensure randomisation. Data sorted by RAND formula column from largest to smallest. First 10% (n=168) was selected and all reports were reviewed.

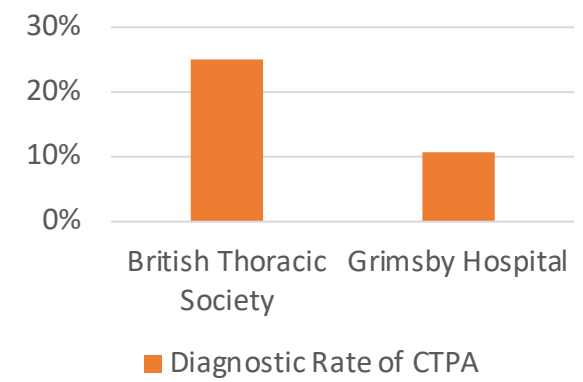
## RESULTS

1. The percentage of CTPA performed and reported within one working day was 76.19%. Most of the delays were between receipt of request and completion of scan.
2. There were only 10.71% confirmed positive PE on CTPA. The results of the audit showed that there is over-requesting of scans. Alternative diagnoses found on the CTPA included respiratory infection, lung tumour or myocardial infarction.
3. Only 48.30% of the CTPA report commented on the presence or absence of right heart strain.

Percentage of CTPA performed and reported within 24hrs



Diagnostic Rate of CTPA



## CONCLUSION AND RECOMMENDATIONS

Compared to the standards and target set, there is suboptimal compliance. The results were presented in the local audit meeting. Recommended plan of action to meet the standards/target set before re-auditing will be by education by teaching referrers/trainees on what detailed clinical information needs to be included in request forms including Well's score. Another recommended plan will be appointing radiologist as gatekeeper. Re-auditing in 12 months to see if targets are met will be required.

## REFERENCES

1. National Institute for Health and Care Excellence, 2019. Pulmonary Embolism. Available at: <https://cks.nice.org.uk/pulmonary-embolism> [Accessed 31 March 2020].
2. Howard, L., Barden, S., Condliffe, R., Connolly, V., Davies, C., Donaldson, J., Everett, B., Free, C., Horner, D., Hunter, L., Kaler, J., Nelson-Piercy, C., O'Dowd, E., Patel, R., Preston, W., Sheares, K. and Tait, C., 2020. British Thoracic Society Guideline For The Initial Outpatient Management Of Pulmonary Embolism (PE).
3. The National Confidential Enquiry into Patient Outcome and Death, 2019. Know the Score. London.