



Embargoed until 00.01hrs on Thursday 8 November 2018

Fatal heart conditions going undetected due to lack of scanning services

At least 56,000 angina patients across the UK missed out on life-saving heart scans last year

- New figures estimate tens of thousands of chest pain sufferers were given basic exercise tests last year, instead of recommended computed tomography (CT) heart scans to detect or rule out heart disease
- Cardiac experts estimate at least 56,289 angina patients across the UK missed out on scans¹, with true figures likely to be much higher
- Provision varies across the UK, with Scotland and Wales doing fewer than 30 per cent of the minimum scans experts say are needed
- Scan waiting lists also vary hugely, with some patients waiting more than six months due to lack of capacity
- Meanwhile, coronary heart disease kills 180 people in the UK every single day²

Cardiac imaging experts have warned that deadly heart conditions are being missed as patients are unable to get CT tests due to a shortage of scanners and radiologists.

New figures released today by The Royal College of Radiologists (RCR) and the British Society of Cardiovascular Imaging (BSCI) to mark the annual International Day of Radiology reveal thousands of angina sufferers are missing out on potentially life-saving scans.

Historically, patients with chest pain are referred to rapid access chest pain clinics to have their heart function assessed by exercise tests.

Cardiac experts have long argued that exercise tests are not accurate enough to rule out underlying causes of angina, such as the plaque that causes fatal heart attacks.

This was supported in 2016, when the National Institute for Health and Care Excellence (NICE) stated that all patients with angina-type symptoms should receive a particular type of heart scan – a computed tomography coronary angiography (CTCA)³.

While NICE guidance is only aimed at English hospitals, experts at the BSCI and the RCR believe everyone with angina should have a CTCA, regardless of where they live.

In addition, new research published earlier this year by a Scottish collaboration of academics showed that the use of additional CTCA scans significantly lowered the rate of heart attacks in patients with suspected angina⁴.

Figures analysed by the BSCI and the RCR show that if the number of suspected angina patients typically going to clinics were automatically given scans instead, as recommended by NICE, then at least 132,080 NHS patients should have had a CTCA test in 2017.

However, only 75,791 CTCAs were performed in total across the UK last year, meaning a shortfall of 43 per cent, or at least 56,289 angina patients missing out on these scans. As the total number of CTCA scans will have covered a range of different investigations, not just recent onset of chest pain, the true numbers of angina patients missing out will have been much higher.

Provision for CTCA scans was best in England, with 69,865 CTCA scans performed in 2017. However, if all the relevant angina referrals in England were scanned early, the number would have been at least 111,239, meaning a 37 per cent shortfall.

By proportion of population, Wales has the biggest gap in CTCA provision, with an estimated 4,854 patients missing out on scans last year (a 78 per cent shortfall in the minimum number of scans needed), compared with 7,900 missed scans in Scotland (73 per cent shortfall) and 2,162 in Northern Ireland (58 per cent shortfall).

The lack of capacity was also echoed in an anonymous poll of BSCI consultants, which revealed waiting times for CTCAs are as high as 26 weeks at some hospitals⁵.

Imaging doctors want to see more investment in cardiac imaging expertise and state-of-the-art CT scanners to ensure all chest pain patients get a potentially life-saving CTCA scan^{6,7}.

Dr Giles Roditi, President of the BSCI, said:

“CTCA scans are incredibly good at detecting and ruling out heart disease, almost perfect. It is beyond frustrating that we do not have the capacity to provide what should be a routine frontline test for everyone presenting with chest pain.

“Instead, in many hospitals it is easier for a runner with a dodgy knee to get a magnetic resonance scan than it is for a patient on the verge of a heart attack to get a CTCA. Deadly cases of heart disease are being missed because we can’t deliver these scans properly across the UK.”

Dr Nicola Strickland, President of the RCR, added:

“It is remarkably sad that the CTCA technology exists to diagnose life-threatening heart disease before it kills people, but patients are being denied access because the UK Government and devolved administrations are failing to invest in training the radiologist doctors needed to report these scans, as well as the state-of-the-art CT scanners needed to perform them.”

CTCA provision by country

Country	2017 population	Total CTCA scans provided 2017	Minimum scans needed (based on benchmark of 200 per 100,000 population)	Shortfall – minimum number of patients missing out	Shortfall as %
UK	66,040,200	75,791	132,080	56,289	43%
England	55,619,400	69,865	111,239	41,374	37%
Scotland	5,424,800	2,950	10,850	7,900	73%
Wales	3,125,200	1,396	6,250	4,854	78%
Northern Ireland	1,870,800	1,580	3,742	2,162	58%

References

1. Methodology: The new figures for the minimum number of computed tomography coronary angiography (CTCA) scans required have been calculated using extrapolated figures for rapid access chest pain clinic referrals, as the RCR and BSCI have argued patients attending these clinics should receive scans.

Most recent data for chest pain clinic referrals is from 2010

(http://webarchive.nationalarchives.gov.uk/20130104184912/http://www.dh.gov.uk/en/Publicationsandstatistics/Statistics/Perfomancedataandstatistics/Integratedperfomanceasuresmonitoring/DH_112551), which showed there were 120,000 referrals in England. If 90 per cent of clinic attendees were scanned (as approximately 10 per cent of referrals do not have suspected angina), that would equate to 200 scans for every 100,000 people.

Applying that benchmark across the most recent Office for National Statistics population data for the UK

(<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2017>) gives a figure for the number of people who should receive a CTCA scan at a population level.

Figures for the actual number of CTCA scans in 2017 have been kindly provided to the RCR and BSCI by NHS Digital for England, and via local Picture Archiving and Communication System experts for Wales, Scotland and Northern Ireland.

2. <https://www.bhf.org.uk/what-we-do/our-research/heart-statistics>

3. <https://www.nice.org.uk/guidance/cg95>

4. <https://www.nejm.org/doi/full/10.1056/NEJMoa1805971>

5. Results from an anonymous survey of 38 BSCI consultant radiologists based across the four UK nations.

6. The UK is at the bottom of CT scanner provision across European member states of the Organisation for Economic Co-operation and Development:

<https://data.oecd.org/healthqt/computed-tomography-ct-scanners.htm>

Tied with Hungary, the UK only has nine CT scanners per 1,00,000 people, while France has 17 per 1,000,000 and Germany has 35. In addition, many of the UK's CT scanners are not modern enough to perform CTCAs.

7. While many "generalist" radiologists do become accredited experts in CTCA scanning via the BSCI, less than 150 of the UK's 5,303 radiologists consider themselves to be cardiac specialists. RCR 2017 Clinical Radiology UK Workforce Census Report, p10:

https://www.rcr.ac.uk/system/files/publication/field_publication_files/bfcr185_cr_census_201

[7.pdf](#)

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Notes to Editors

For further information and interviews, please contact Emma Cooper on 020 7406 5941 or email emma_cooper@rcr.ac.uk Out of office hours please call 07554 998197.

The Royal College of Radiologists has more than 11,000 fellows and members worldwide, representing the medical specialties of clinical oncology and clinical radiology. The College sets and maintains the standards for entry to and practice in the specialties, in addition to leading and supporting practitioners throughout their career www.rcr.ac.uk

The British Society of Cardiovascular Imaging is a multi-professional society for all clinicians interested in and practicing in cardiac imaging. The society welcomes membership from medical and non-medical specialists and generalists with a cardiac imaging interest and encourages membership from trainees as well as senior practitioners. It also acts as the national special interest group for cardiovascular computed tomography www.bsci.org.uk