

Supplementary material

Exclusions

Free-text RACPC history exclusions for known existing CAD

The following regular expressions were used to exclude patients with known existing CAD based on the free-text history recorded at the RACPC.

"(?<!failed)PCI|DES|CABG|(?<!renal) stent|oronary artery bypass|ngioplasty| single vessel"

Identifies patients with mention of:

- PCI (not failed); OR
- DES (drug eluting stent); OR
- CABG; OR
- stent (not renal); OR
- oronary artery bypass (missing first letter to account for case sensitivity if term appears at start of sentence); OR
- ngioplasty (missing first letter to account for case sensitivity if term appears at start of sentence); OR
- single vessel (single vessel disease, would only be mentioned in this context)

"MI|Mi"

Identifies patients with mention of:

- MI (myocardial infarction); OR
- Mi (missed capitalisation of the "i")

These exclusions were checked manually to ensure instances including a patient name (i.e. "Miss [surname]") were not incorrectly flagged for exclusion, and were truly indicative of an MI.

ICD10 exclusions for known existing CAD

The following ICD10 codes were identified as being relevant for the exclusion of patients with known existing CAD previously seen as inpatients in our cohorts.

Code	Description
I200	Unstable angina
I252	Old myocardial infarction
I219	Acute myocardial infarction, unspecified
I214	Acute subendocardial myocardial infarction
I211	Acute transmural myocardial infarction of inferior wall
I212	Acute transmural myocardial infarction of other sites
I210	Acute transmural myocardial infarction of anterior wall
I255	Ischaemic cardiomyopathy
I213	Acute transmural myocardial infarction of unspecified site
I253	Aneurysm of heart
I248	Other forms of acute ischaemic heart disease
I201	Angina pectoris with documented spasm
I249	Acute ischaemic heart disease, unspecified

I229	Subsequent myocardial infarction of unspecified site
I240	Coronary thrombosis not resulting in myocardial infarction

OPCS exclusions for known existing CAD

The following OPCS codes were identified as being relevant for the exclusion of patients with known existing CAD previously seen as inpatients in our cohorts.

Code	Description
K404	Saphenous vein graft replacement of four or more coronary arteries
K453	Anastomosis of mammary artery to left anterior descending coronary artery
K751	Percutaneous transluminal balloon angioplasty and insertion of 1-2 drug-eluting stents into coronary artery
K752	Percutaneous transluminal balloon angioplasty and insertion of 3 or more drug-eluting stents into coronary artery
K491	Percutaneous transluminal balloon angioplasty of one coronary artery
K503	Percutaneous transluminal injection of therapeutic substance into coronary artery NEC
K753	Percutaneous transluminal balloon angioplasty and insertion of 1-2 stents into coronary artery
K402	Saphenous vein graft replacement of two coronary arteries
K411	Autograft replacement of one coronary artery NEC
K498	Other specified transluminal balloon angioplasty of coronary artery
K518	Other specified diagnostic transluminal operations on coronary artery
K403	Saphenous vein graft replacement of three coronary arteries
K493	Percutaneous transluminal balloon angioplasty of bypass graft of coronary artery
K512	Intravascular ultrasound of coronary artery

Identification of diagnoses and investigations

A&E cardiovascular diagnoses

The following conditions were identified as being relevant for the classification of A&E attendances being for cardiovascular reasons.

Description
ACS - Acute coronary syndrome
Acute chest pain
Angina
Angina of effort
Cardiac chest pain
Chest pain
Chest pain at rest
Chest tightness
Ischaemic heart disease
NSTEMI - Non-ST segment elevation MI
Unstable angina

Inpatient admission for cardiovascular reasons

The following ICD10 codes were identified as being relevant for the classification of inpatient admissions being for cardiovascular reasons.

Code	Description
Ix	All codes beginning with 'I' are cardiovascular
R00x	Abnormalities of heart beat Tachycardia, unspecified Bradycardia, unspecified Palpitations Other and unspecified abnormalities of heart beat
R01x	Cardiac murmurs and other cardiac sounds Benign and innocent cardiac murmurs Cardiac murmur, unspecified Other cardiac sounds
R03x	Abnormal blood-pressure reading, without diagnosis Elevated blood-pressure reading, without diagnosis of hypertension Nonspecific low blood-pressure reading
R060	Dyspnoea
R071	Chest pain on breathing
R073	Other chest pain
R074	Chest pain, unspecified
R098	Other specified symptoms and signs involving the circulatory and respiratory systems
R55	Syncope and collapse
R570	Cardiogenic shock
R931	Abnormal findings on diagnostic imaging of heart and coronary circulation
R943	Abnormal results of cardiovascular function studies

Inpatient procedures

The following OPCS codes were identified as classifying procedures relevant to the study, carried out on an inpatient basis.

Code	Description
K634	Coronary arteriography using two catheters
K635	Coronary arteriography using single catheter
K636	Coronary arteriography NEC
K49x	Percutaneous transluminal balloon angioplasty of one coronary artery Percutaneous transluminal balloon angioplasty of multiple coronary arteries Percutaneous transluminal balloon angioplasty of bypass graft of coronary artery Percutaneous transluminal cutting balloon angioplasty of coronary artery Other specified transluminal balloon angioplasty of coronary artery Unspecified transluminal balloon angioplasty of coronary artery
K501	Percutaneous transluminal laser coronary angioplasty
K75x	Percutaneous transluminal balloon angioplasty and insertion of 1-2 drug-eluting stents into coronary artery Percutaneous transluminal balloon angioplasty and insertion of 3 or more drug-eluting stents into coronary artery Percutaneous transluminal balloon angioplasty and insertion of 1-2 stents into coronary artery Percutaneous transluminal balloon angioplasty and insertion of 3 or more stents into

	coronary artery NEC Other specified percutaneous transluminal balloon angioplasty and insertion of stent into coronary artery Unspecified percutaneous transluminal balloon angioplasty and insertion of stent into coronary artery
K40x	Saphenous vein graft replacement of one coronary artery Saphenous vein graft replacement of two coronary arteries Saphenous vein graft replacement of three coronary arteries Saphenous vein graft replacement of four or more coronary arteries Other specified saphenous vein graft replacement of coronary artery Unspecified saphenous vein graft replacement of coronary artery
K41x	Autograft replacement of one coronary artery NEC Autograft replacement of two coronary arteries NEC Autograft replacement of three coronary arteries NEC Autograft replacement of four or more coronary arteries NEC Other specified other autograft replacement of coronary artery Unspecified other autograft replacement of coronary artery
K42x	Allograft replacement of one coronary artery Allograft replacement of two coronary arteries Allograft replacement of three coronary arteries Allograft replacement of four or more coronary arteries Other specified allograft replacement of coronary artery Unspecified allograft replacement of coronary artery
K43x	Prosthetic replacement of one coronary artery Prosthetic replacement of two coronary arteries Prosthetic replacement of three coronary arteries Prosthetic replacement of four or more coronary arteries Other specified prosthetic replacement of coronary artery Unspecified prosthetic replacement of coronary artery
K44x	Replacement of coronary arteries using multiple methods Revision of replacement of coronary artery Other specified other replacement of coronary artery Unspecified other replacement of coronary artery

Inpatient events

The following ICD10 codes were identified as classifying events relevant to the study, occurring on an inpatient basis.

Code	Description
I21x	Acute myocardial infarction Acute transmural myocardial infarction of anterior wall Acute transmural myocardial infarction of inferior wall Acute transmural myocardial infarction of other sites Acute transmural myocardial infarction of unspecified site Acute subendocardial myocardial infarction Acute myocardial infarction, unspecified
I22x	Subsequent myocardial infarction Subsequent myocardial infarction of anterior wall Subsequent myocardial infarction of inferior wall Subsequent myocardial infarction of other sites

	Subsequent myocardial infarction of unspecified site
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Radiology Information System – procedures

The following exam names were identified as classifying relevant investigations, as recorded in the RIS dataset.

Procedure	Exam Name
CTCA	CT Cardiac Angiogram Coronary
CTCA	CT Cardiac Cor Artery Calcium Scoring
CTCA	CT Cardiac Gated Function With Contrast
Stress NMPS	NM Mps Tf Stress Gated
Rest NMPS	NM Mps Tf Rest Gated
Angiography	Cardiac Angio Coronaries
Angiography	Cardiac Angio Lt Ventricle and Cor A
Pressure wire	Cardiac Pressure Wire and Cath Insertion
PCI	Primary Pc coronary intervention
PCI	Cardiac Angio Coronary Stent
PCI	Cardiac Pressure Wire and Pci
MRI	MRI Card Morphology Func With Contrast
MRI	MRI Card Morph Func Velocity Stress Cont
MRI	MRI Card Morph Func Velocity With Cont
MRI	MRI Card Morphology Function Velocity
IVUS	Intravascular Ultrasound
OCT	OCT Coronary artery Fluoro guided Right

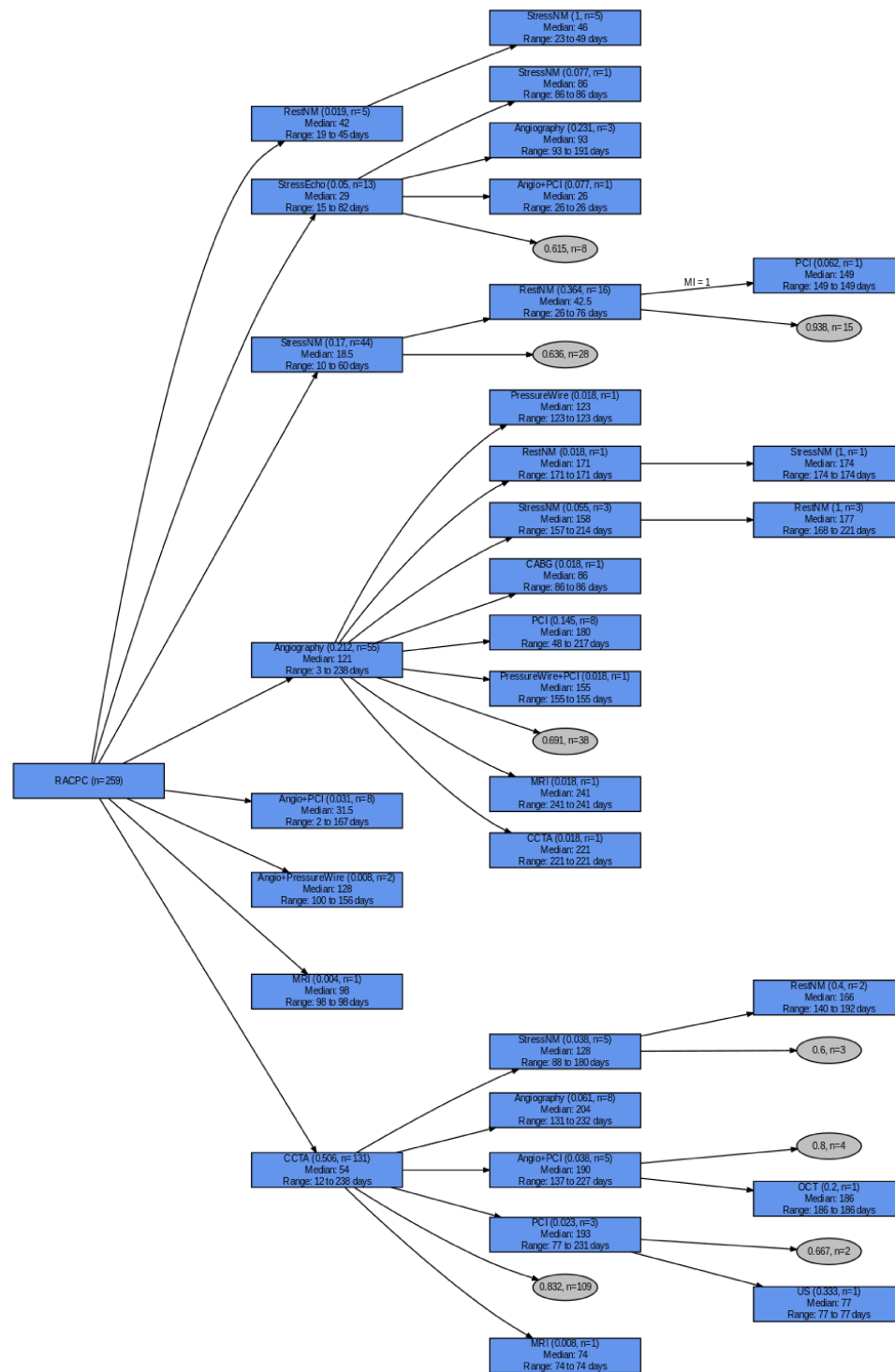


Figure S1. Pre-fractional flow reserve computed tomography (FFR_{CT}); chronological breakdown of investigations between Rapid Access Chest Pain Clinic (RACPC) attendance and endpoint.

Abbreviations: CTCA, computed tomography coronary angiography; PCI, percutaneous coronary intervention; CABG, coronary artery bypass grafting; NM, nuclear medicine; MRI, magnetic resonance imaging; OCT, optical coherence tomography; US, ultrasound.

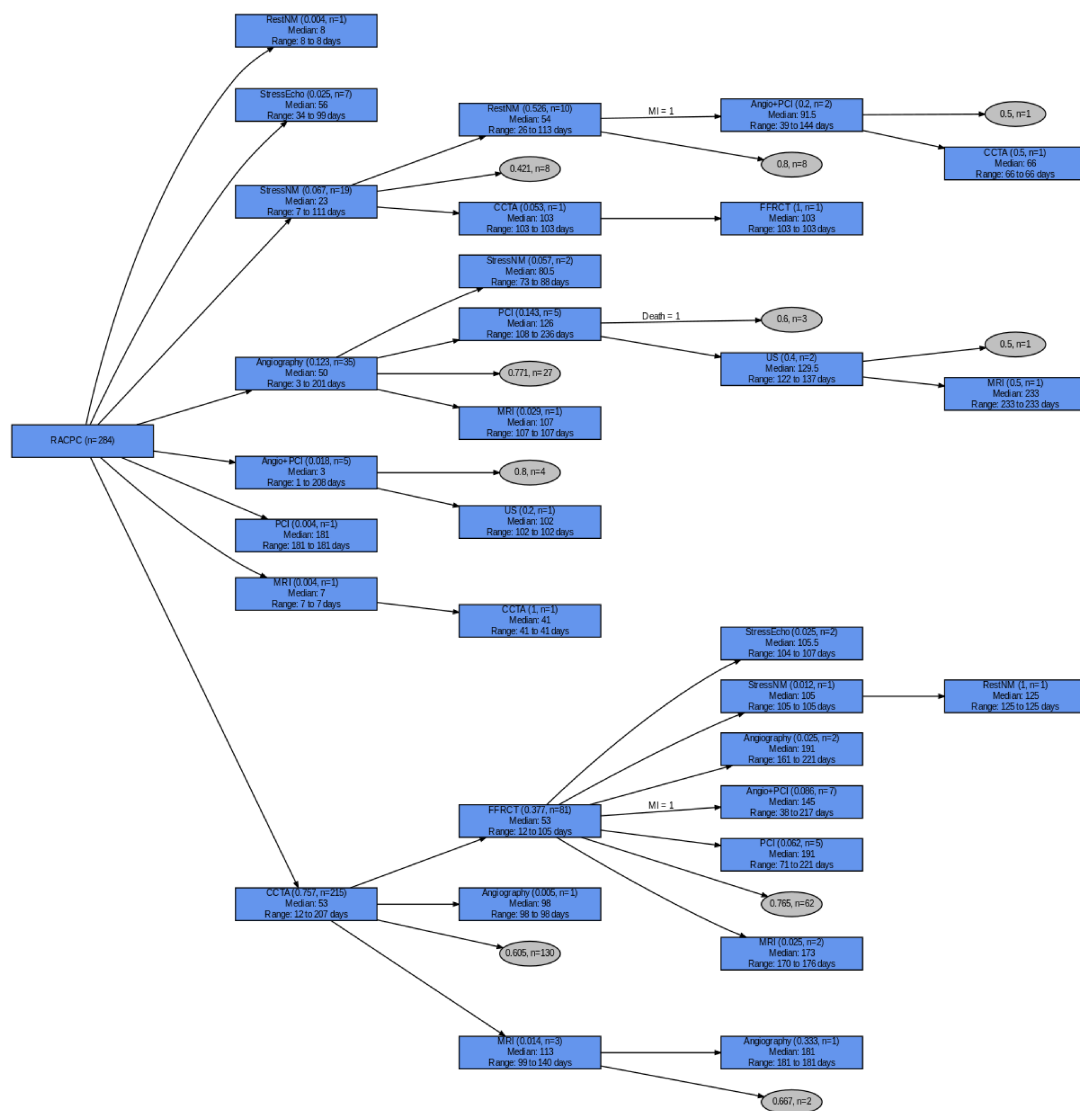


Figure S2. Post-fractional flow reserve computed tomography (FFR_{CT}); chronological breakdown of investigations between Rapid Access Chest Pain Clinic (RACPC) attendance and endpoint.

Abbreviations: CTCA, computed tomography coronary angiography; PCI, percutaneous coronary intervention; NM, nuclear medicine; MRI, magnetic resonance imaging; US, ultrasound.