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
1200	Unstable angina
1252	Old myocardial infarction
1219	Acute myocardial infarction, unspecified
1214	Acute subendocardial myocardial infarction
1211	Acute transmural myocardial infarction of inferior wall
1212	Acute transmural myocardial infarction of other sites
1210	Acute transmural myocardial infarction of anterior wall
1255	Ischaemic cardiomyopathy
1213	Acute transmural myocardial infarction of unspecified site
1253	Aneurysm of heart
1248	Other forms of acute ischaemic heart disease
1201	Angina pectoris with documented spasm
1249	Acute ischaemic heart disease, unspecified

1229	Subsequent myocardial infarction of unspecified site
1240	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
lx	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
122x	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

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	Cardiac Pressure Wire and Cath Insertion
wire	
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

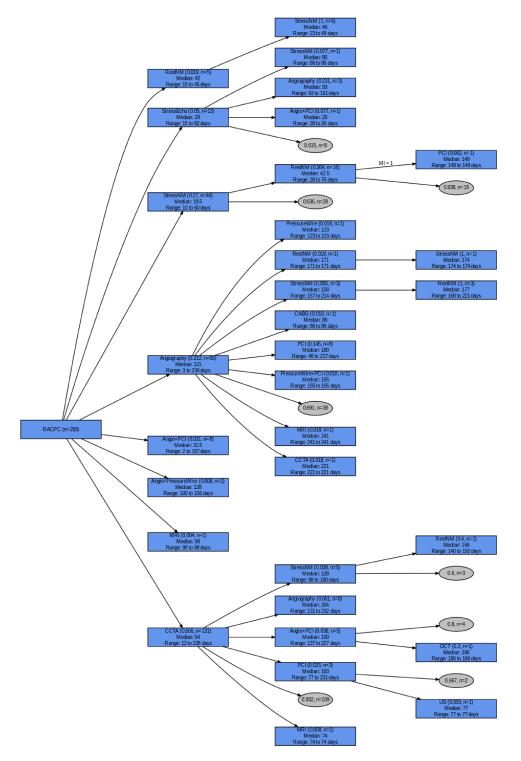


Figure S1. Pre-fractional flow reserve computed tomography (FFR_{CT}); chronological breakdown of investigations between Rapid Access Chest Pain Clinic (RACPC) attendance and endpoint.

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.

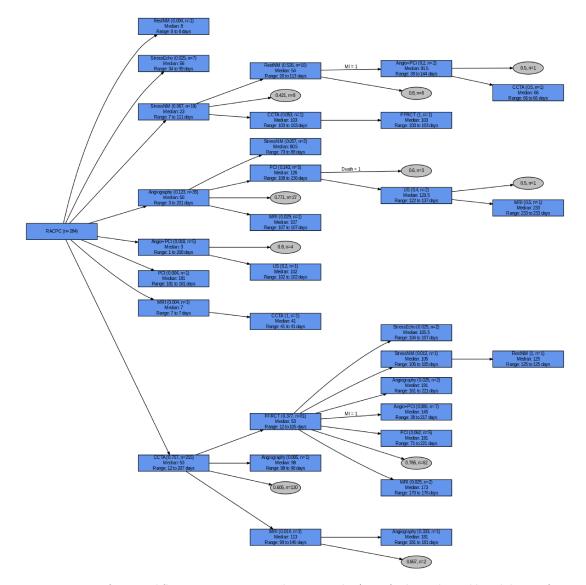


Figure S2. Post-fractional flow reserve computed tomography (FFR_{CT}); chronological breakdown of investigations between Rapid Access Chest Pain Clinic (RACPC) attendance and endpoint.

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