Project scope: computed tomography fractional flow rate (CT-FFR)

January 2026

Research question(s)

1. What is the clinical effectiveness, cost effectiveness, safety and patient experience of using artificial intelligence (AI) to estimate computed tomography fractional flow reserve (CT-FFR) based on standard coronary CT angiography (CCTA) in people with suspected coronary artery disease?

Inclusion criteria

The selection of studies for inclusion in the literature review element of the project will be based on the following criteria:

Population	▪ people with stable typical or atypical chest pain with suspected coronary artery disease as the cause
Intervention	▪ AI estimated CT-FFR (computed tomography fractional flow reserve) applied to standard coronary CT angiography (CCTA) image data
Comparator	▪ CCTA imaging without CT-FFR estimation ▪ invasive coronary angiography combined with invasive measurement of FFR using pressure wire studies ▪ (for diagnostic accuracy the reference standard is invasive FFR measurement)
Outcomes	▪ diagnostic accuracy measures ▪ downstream diagnostic testing ▪ mortality ▪ adverse events ▪ quality of life ▪ cost effectiveness ▪ patient experience
Limits	▪ published since 2011 (Heartflow, first of its kind, released that year) ▪ English language

Exclusion criteria

The exclusion of studies from the literature review element of the project will be based on the following criteria:

Population	▪ People with unstable chest pain, known coronary artery disease, previous myocardial infarction or previous coronary stenting ▪ Children and young people (<18 years of age)
Intervention	-
Comparator	-
Outcomes	-
Limits	▪ Published before 2011 ▪ Non-English language

Planned activities

SHTG have agreed on the following activities to support the development of an SHTG IMTO on using AI CT-FFR to estimate fractional flow reserve from CCTA in people with suspected coronary artery disease:

1. A review of the published literature on clinical effectiveness, cost effectiveness, safety and patient experience

End products

At the end of the project, SHTG will publish:

- SHTG IMTO

Timescales (approximate)

Publication in April 2026.