

Project scope: Artificial intelligence (AI) assisted endoscopy

31 January 2025

Research question

What is the clinical effectiveness, safety, cost effectiveness and patient experience of AI assisted lower gastrointestinal (GI) endoscopy for the identification of pre-cancerous polyps or lower GI cancer, compared with standard care?

Inclusion criteria

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

Population	<p>Adults aged 18 years and older, referred (any source) for the identification of pre-cancerous polyps or lower GI cancer (colorectal, including anus).</p> <p>The populations include those referred for screening, diagnostic and surveillance.</p>
Intervention	AI assisted lower GI endoscopy (colonoscopy), used as an adjunct to standard care.
Comparator	Standard endoscopy (high definition, white light), without assistance of AI.
Outcomes	<p>Patient</p> <ul style="list-style-type: none"> • detection rate of pre-cancerous polyps (for example, adenomas, sessile serrated lesions). • time to diagnosis • health-related quality of life. • stage of cancer (including cancer rate). <p>System</p> <ul style="list-style-type: none"> • procedure time. • withdrawal time. • throughput (eg number of patients per procedure list). • number of biopsies, endoscopic resections, subsequent surgery.

	<ul style="list-style-type: none"> • technology performance (specificity, sensitivity, positive predictive value, negative predictive value). • endoscopist workload. <p>Cost-effectiveness</p> <ul style="list-style-type: none"> • value proposition. • technology costs. • cost implications of health/service consequences of technology implementation. <p>Safety</p> <ul style="list-style-type: none"> • adverse events. <p>Equality</p> <ul style="list-style-type: none"> • any equality evidence available. <p>Experience</p> <ul style="list-style-type: none"> • patient and staff perspectives (including change in required skills). <p>Sustainability</p> <ul style="list-style-type: none"> • equipment disposal.
Limits	English language

Planned activities

SHTG have agreed on the following activities to support the development of an SHTG IMTO on AI assisted endoscopy:

1. A comprehensive search of the literature.
2. A review and high-level summary of the evidence base, based on our findings.
3. A framework for an economic evaluation.

End products

At the end of the project, SHTG will publish an IMTO.

Timescales (approximate)

March 2025