A Tale of Two Settings

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EO expert opinion

Faecal Immunochemical Tests (FIT) are now used for asymptomatic population-based bowel (cancer) screening and also for the assessment of patients presenting with lower abdominal symptoms, particularly in primary care.

FIT provide one investigation that is of significant value in these two very different clinical settings. These applications have different target populations, aims, faecal haemoglobin cut-offs, interpretation of results, potential harms, additional benefits, potential improvements and possible strategies for the future.

It is important that these different aspects of FIT are appreciated as this test rolls out across the UK and the major advantages of increasing screening uptake and helping to decide which patients presenting in primary care would benefit most from colonoscopy are gained.

The adjacent table clarifies the attributes.

Distinguishing FIT in Screening from FIT in Assessment of the Symptomatic

Characteristic	FIT in Screening	FIT in the Symptomatic
Target Population	Asymptomatic individuals eligible to participate in structured screening programmes, which differ from nation to nation in the UK, being 60-74 years in England, Wales and Northern Ireland, and 50-74 years in Scotland along with those older individuals who choose to "opt-in".	Patients of any age who present in primary care with lower abdominal symptoms such as rectal bleeding, a change in bowel habit to constipation or diarrhoea, unexplained weight loss, anaemia, abdominal pain, and abdominal or rectal mass. In addition, some patients seen at certain secondary care clinics such as gastroenterology, will benefit.
Aim	To select those participants in screening programmes who have no symptoms, but are at highest risk of colorectal neoplasia – cancer and higher-risk (advanced) adenoma.	To identify those patients who are most unlikely to have significant colorectal disease and would not benefit from referral for colonoscopy, saving resources and shortening waiting times, as well as identifying those who have significant colorectal disease and would benefit.
Purpose	Rule in neoplasia.	Rule out significant colorectal disease (cancer + higher-risk adenoma + Inflammatory Bowel Disease). Rule in significant colorectal disease.
Faecal Haemoglobin Cut-off Concentration Used	High – especially in colonoscopy constrained countries. Selected to give the screening programme performance characteristics desired, such as the positivity rate with which the available colonoscopy resource could cope.	Low – 10 μg Hb/g faeces is widely recommended. Selected to ensure that patients with "negative" results, most unlikely to have significant colorectal disease, do not necessarily get early referral for colonoscopy. And, if "positive", stimulates early referral to secondary care for further investigation.
Interpretation of Results	A "positive" result means that a risk of significant colorectal disease is present and further investigation is warranted. A "negative" result means the participant should be invited again at the set screening interval, currently two years in the UK.	If the result is "negative", there is considerable reassurance that significant colorectal disease is not present. A "detectable" faecal haemoglobin means that the patient warrants further investigation.
Potential Harms	Not all colorectal neoplasia is detected – interval cancer proportions are high when high faecal haemoglobin cut-offs are applied. Thus, a "negative" result does not mean that colorectal neoplasia is absent and participants receive information on lifestyle and symptoms. There is a "reassurance" effect of a "negative" result. Moreover, a "positive" result does not mean that colorectal neoplasia is present, but the participant will undergo an invasive and potentially harmful investigation.	FIT in assessment of the symptomatic is not perfect and some colorectal disease will be missed if a "negative" result is used as guidance for no referral. Most cancers are detected, but a slightly greater proportion of higher-risk adenoma and inflammatory bowel diseases are not detected. Thus, patients with "negative" results could be given reassurance, but possible alternatives such as watching and waiting, referral to secondary care clinics, or a repeat FIT might be warranted, particularly if symptoms persist.
Additional Benefits	Not only cancer detected but also some higher-risk adenoma, sometimes precursors of cancer, and Inflammatory Bowel Disease.	Not only possibility of significant colorectal disease being "excluded", but cancer, higher-risk adenoma, sometimes precursors of cancer, and Inflammatory Bowel Disease detected.
Potential Improvements	As FIT screening progresses and as the available colonoscopy resource expands, implementation of lower cut-offs over time would increase detection of cancer and even more higher-risk adenoma.	Investigation of more analytically sensitive methods for detection of faecal haemoglobin, since many patients have undetectable faecal haemoglobin with current methodology. Use of FIT result in combination with other variables such as blood haemoglobin.