Weak recommendation

10. Evidence-based recommendation

The emerging faecal, blood or serum tests for cancer-specific biomarkers such as DNA are not recommended as population screening modalities for colorectal cancer at this time. (Bosch et al, 2019*[66]*, Bretagne et al, 2021*[71]*, Chiu et al, 2016*[75]*, Imperiale et al, 2021*[68]*, Jin et al 2022*[65]*, Shapiro et al, 2017*[83]*)

Practical info

With only one or two studies reporting on the diagnostic accuracy of the different biomarker assays there is insufficient evidence to fully assess the diagnostic performance of the various non-FOBT faecal or blood-based cancer-specific biomarker assays.

Evidence to decision

Benefits and harms

The short-term benefits and harms of diagnostic accuracy are reported in terms of test sensitivity and specificity. The benefit is illustrated through true positive and true negative results and harms can arise from false positive and false negative results. For multitarget stool DNA tests, the sensitivity and specificity vary with sensitivity ranging from 85.7%-92.9% and specificity of 84.9%-88.5% for detection of CRC, with lower sensitivity (47.8%) for detection of advanced adenoma.

Certainty of the Evidence

Studies reporting CRC detection using multitarget stool DNA provided evidence of very low certainty. See **Appendix E**6 for more details.

Values and preferences

In the Australian context, multitarget stool DNA tests are not commonly used or available. There is not sufficient evidence to patient preferences or support guidance for population screening in Australia.

Rationale

Additional Evidence: screening modalities – modelling evaluation

Stool biomarker screening (also known as faecal DNA screening or multitarget stool DNA testing) is an alternative stool testing modality available for CRC screening. In the analysis undertaken for the 2017 guidelines, 5-yearly stool biomarker testing was found not to be cost-effective compared with 2-yearly iFOBT screening.

New evidence on population CRC risk has become available since publication of the 2017 guidelines. In line with international findings, recent Australian studies found CRC incidence increased in people aged under 50 years in the past decades (46–48), potentially necessitating updated evaluations to identify the optimal population screening modality.

Aim and strategy of modelling evaluations

The aim of modelling was to evaluate the health benefits (as measured by CRC incidence and mortality reduction and life-years saved), burden (as measured by the number of colonoscopies performed), harms (i.e. the number of colonoscopy-related adverse events), and cost-effectiveness of 5-yearly stool biomarker screening, compared to 2-yearly iFOBT screening.