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Title **Fecal Immunochemical Testing in Colorectal Cancer Screening of Average Risk Individuals: Economic Evaluation**

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Aim

To evaluate the economics of using fecal immunohistochemical testing (FIT) to screen for colorectal cancer (CRC) in average-risk individuals.

Conclusions and results

All CRC screening modalities are associated with improved clinical outcomes and higher costs compared with no screening. FIT seems superior to fecal occult blood testing (FOBT), particularly in detecting polyps. More study is warranted. Compared with no screening, mid-range FIT (FIT-mid) was associated with a cost per QALY of $4350, which was robust to sensitivity analysis. If jurisdictions implement screening programs using FIT, volume-based contracts could be used to achieve lower prices for the FIT assays. To optimize FIT test performance, programs could include the testing of 2 to 3 stool samples.

Recommendations

Not applicable.

Methods

Data from previous CADTH HTAs were used in an incremental cost-utility analysis to compare FIT and the most widely used CRC screening strategies (colonoscopy and FOBT) with no screening in average-risk patients. Modalities were rank ordered by cost, eliminating dominated strategies and strategies that were eliminated by extended dominance. The outcomes included costs, QALYs, number of cancers, number of cancer deaths, and the cost per QALY gained. Modeling was performed using Markov analysis and an annual cycle. Base-case analyses were performed using cohort simulation, with alternative modeling strategies (first-order Monte Carlo simulation) used to assess cancer rates and number of colonoscopies. Given the heterogeneity of available FIT tests, 3 independent scenarios were modeled to represent studies reporting: *lower* (FIT-low), *mid-range* (FIT-mid), and *high* test performance (FIT-high).

Further research/reviews required

FIT seems to be superior to FOBT screening, particularly in detecting polyps. More study is warranted.

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