

Fecal occult blood testing effective in colonoscopy screenings

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Fecal immunochemical testing (FIT) is more effective in its health benefits at the same or lower costs compared to guaiac fecal occult blood testing (gFOBT) at all levels of colonoscopy capacity, according to a study published November 9 by the *Journal of the National Cancer Institute*.

In many countries, wait times for colonoscopy screenings can take up to 12 weeks. Screening with gFOBT has been proven to reduce mortality from colorectal cancer (CRC); however, the effectiveness of the screening depends partly on attendance at all screening rounds and on diagnostic yield (the proportion of individuals found with [adenomas](#) or CRC). FIT may increase attendance and diagnostic yield compared to gFOBT, and may cause fewer false positive tests. Because of these advantages, FIT is of increasing interest in the field.

To determine the benefits of FIT compared with gFOBT, Janneke A. Wilschut, MSc, of the department of public health at the University Medical Center in Rotterdam, the Netherlands, and colleagues used the MISCAN-Colon micro-simulation model, which simulates the relevant biographies of a large population from birth to death both without screening, as well as with changes that would occur in screening programs. The researchers estimated the number of colonoscopies, costs, and [health effects](#) of different screening strategies using both gFOBT and FIT, various age ranges and multiple surveillance strategies.

The model predicts that FIT is both cost-effective and clinically beneficial for detecting CRC. They found that for a screening scenario for people ages 45 to 80 years in which there is unlimited colonoscopy capacity, screening intensively with the lowest FIT cutoff level for referral to colonoscopy (50 ng [hemoglobin](#) per mL) provided optimal [health benefits](#) for cost. For a scenario with limited colonoscopy capacity, FIT with a higher

cutoff level performed better than gFOBT and was more effective if the colonoscopy capacity was expanded.

The authors note certain limitations of the study: That they performed only one-way sensitivity analyses to evaluate the impact of other assumptions for some parameters and did not perform a probabilistic sensitivity analysis, stating that because of the large number of strategies needed to evaluate each draw a large computational effort would be required. Nevertheless, they conclude, "It should be noted that FOBT screening can become considerably more effective if colonoscopy capacity is expanded. Efforts should therefore be undertaken to achieve an increased colonoscopy capacity."

In an accompanying editorial, Russell Harris, M.D., MPH, of the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill and Linda S. Kinsinger, M.D., MPH, of the Department of Health Behavior and Health Education at the University of North Carolina School of Public Health, write that aggressive colonoscopy screening, termed "going the distance," in the United States has potential harms and costs that have not been fully explored. They discuss that the use of simulation models, such as the one described by Wilschut et al., could be useful to make real-world decisions about how intensive screening should be under different colonoscopy capacities by measuring clinical and cost effectiveness. However, such models do not incorporate the potential harms of aggressive screening programs, such as patient anxiety, the discomfort and inconvenience of the colonoscopy bowel preparation, sedation effects, loss of productivity at work and home, overdiagnosis, and the risk of complications from a biopsy and polypectomy, or take into account a situation in which resources are limited. Harris and Kinsinger suggest that outcomes tables are needed in addition to a [simulation model](#) to fully compare the

benefits, harms, and costs of screening strategies. They suggest that such an analysis might reveal that a primary colonoscopy screening strategy ("going the distance"), as currently practiced in the US, provides less health value at higher cost than a strategy of restricting colonoscopic screening to smaller subgroups. In conclusion, "If not going the distance means fewer harms to patients, more participation by under-screened groups, fewer opportunity costs to the health-care system and lower overall cost for CRC [screening](#), then less [colonoscopy](#) can mean more well-being for us all."

More information: jnci.oxfordjournals.org/

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