

CTC screening for colorectal cancer not cost-effective when reimbursed at same rate as colonoscopy

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Computed tomographic colonography, also known as virtual colonoscopy, is not cost-effective if reimbursed at the same rate as colonoscopy, according to a study published online July 27 in *The Journal of the National Cancer Institute*.

Colon cancer is one of the most common cancers in people over the age of 65, and there are several [screening](#) methods used to detect it. With the most commonly used procedure, [colonoscopy](#), a small camera on a tube is inserted through the anus to remove polyps that pose a risk of colorectal cancer and biopsy lesions suspicious of cancer. Computed tomographic colonography (CTC) is a type of CT scan that produces three-dimensional images of the inside of the colon. If suspicious lesions are seen on the scan, the individual is referred for a follow-up colonoscopy to have those lesions removed or biopsied.

To investigate whether CTC screening every five years could be cost-effective compared to currently reimbursed colorectal screening tests, researchers used simulation models to study an unscreened cohort of Medicare beneficiaries.

Amy B. Knudsen, Ph.D., of the Institute for Technology Assessment at Massachusetts General Hospital, and colleagues, used three different simulation models to calculate the lifetime costs and life expectancy associated with 15 screening strategies, including no screening, CTC

screening every five years, annual fecal occult blood test (FOBT), flexible sigmoidoscopy every five years, flexible sigmoidoscopy every five years in conjunction with the annual FOBT, and colonoscopy every ten years. They evaluated these strategies for a previously unscreened population of [Medicare beneficiaries](#), starting at age 65.

The researchers found that "the number of life-years gained from 5-yearly CTC were only slightly lower than the number gained from 10-yearly colonoscopy screening. However, they found that if CTC was reimbursed at \$488, which is approximately the same rate as colonoscopy, then lifetime costs associated with CTC screening exceed those of colonoscopy. Nevertheless, they also found that "if the availability of CTC enticed 25% of otherwise unscreened individuals to be screened, CTC would be cost-effective" at this reimbursement rate. The Centers for Medicare and Medicaid Services does not currently reimburse CTC screening, and it is unclear if more individuals would adopt [colon cancer](#) screening if offered CTC.

In conclusion, the authors write, "If CTC screening is reimbursed at roughly the same rate as colonoscopy, the cost, relative to the benefit derived and to the availability and costs of other colorectal screening tests, is too high for it to be a cost-effective screening strategy."

The researchers found that the range at which reimbursement would be cost-effective would be \$108-205 per scan.

The study also "highlights that comparative effectiveness research, and cost-effectiveness analyses in particular, can also be used to inform reimbursement levels," the authors write.

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, [raises doubts about the safety](#) and efficacy of both CTC and

colonoscopy. CTC often finds abnormalities outside the colon - in such areas as the kidneys or adrenal glands - that lead to further tests and procedures but likely not to longer life. Colonoscopy often leads to removal of small [polyps](#) unnecessarily, sometimes leading to complications such as bleeding, Harris writes, adding:

"Wouldn't it be interesting if we ended up, a few years from now, with neither CT colonography nor optical colonoscopy as the primary screening test but rather an improved fecal test as our 'gold standard'?"

More information: jnci.oxfordjournals.org/

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