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NEWS

RSNA Press Release

Whole-Body CT Screening Costs Overshadow Benefits

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At A Glance

- Whole-body CT screening may lead to an estimated average increase in life expectancy of only six days, at a cost of $151,000 per life-year gained.
- Whole-body CT screening is not appropriate for people at average risk for disease.

OAK BROOK, Ill. - Whole-body computed tomography (CT) is not a cost-effective screening method, according to a study published in the February issue of the journal *Radiology*.

The use of whole-body CT as a screening tool for cancer and other diseases is the focus of an ongoing debate. Proponents of whole-body CT emphasize the potential benefit of early detection of disease, but others caution that the costs, false-positive findings and unnecessary radiation might render the procedure more harmful than beneficial.

"Our findings show that the average person should think twice before having a whole-body CT examination," said study author, G. Scott Gazelle, M.D., Ph.D., director of the Massachusetts General Hospital Institute for Technology Assessment and associate professor of radiology at Harvard Medical School in Boston. "When money is wasted on ineffective interventions, it drives up the cost and decreases the availability of other necessary healthcare interventions," he said.

The researchers evaluated the cost-effectiveness of a single whole-body CT screening examination, which they believe to be the most representative use of whole-body CT. They estimated the cost to be $900 in 2001 dollars, based on advertised prices at the time. By using software to create an analytic model, the team calculated the monetary costs versus any increase in life expectancy that resulted from CT screening in a hypothetical, self-referred cohort of 500,000 asymptomatic 50-year-old males. They evaluated eight conditions and anatomic regions commonly associated with whole-body CT screening. Disease rates were based on 1973-1996 data from the Surveillance, Epidemiology and End Results (SEER) program.

The findings indicate that whole-body CT screening exams provide only minimal gains in life expectancy (approximately six days) at an average cost of $2,513 per patient, or an incremental cost-effectiveness ratio of $151,000 per life-year gained (relative to survival with no screening), making the procedure more expensive in cost per life-year gained than

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the majority of other healthcare interventions currently funded in the United States.

The study also found that for every 1,000 patients screened, an average of 908 would have at least one false-positive test result, requiring further testing. Health insurance would be responsible for the costs of most follow-up tests and treatments prompted by the CT examination, which could lead to increased healthcare costs across the board.

The researchers maintain that serious consideration should be given to the costs and benefits of this technology before it is more widely used, as sufficient clinical data are not currently available to provide a definitive answer regarding whole-body CT screening, and the analytic model holds some limitations.

"Models are by definition a simplification of reality," Dr. Gazelle said. "The real test of a model is to compare the findings with actual clinical data. Currently, there is a paucity of data regarding the effectiveness of whole-body CT."

Dr. Gazelle believes that this type of screening is not appropriate in people with an average risk of disease. "Tests have downstream consequences," he said. "At this time, whole-body CT screening just doesn't appear to be a good use of healthcare funding."

For interviews or a copy of the complete study, contact RSNA Media Relations at (630) 590-7762.

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"Cost-effectiveness of Whole-Body CT Screening." Collaborating with Dr. Gazelle on this paper were Molly T. Beinfeld, M.P.H., and Eve Wittenberg, Ph.D.

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