# Considerable proportion of patients with advanced cancer continue to undergo common cancer screening

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A sizeable proportion of patients with advanced cancer and a life expectancy of only a few years continue to undergo common cancer screening tests that are unlikely to provide meaningful benefit, according to a study in the October 13 issue of *JAMA*.

Cancer screening programs, such as mammography, Papanicolaou test, prostate-specific antigen (PSA) and colonoscopy, evaluate asymptomatic patients for the detection of early forms of cancer and have contributed substantially to the decline in deaths from cancer. "Although the benefits of cancer screening are compelling for most members of the population, its value is less certain for patients with concurrent illnesses that severely limit life expectancy. In the extreme situation of patients with advanced cancer, screening will lead to over diagnosis (detection of a cancer which, if not found by active search, would not affect survival) in virtually all cases when a new malignancy is found. In addition, patients may be subject to unnecessary risk due to subsequent testing, biopsies, and psychological distress," the authors write. Current cancer screening guidelines do not directly address the appropriateness of screening for individuals with terminal illness, according to background information in the article.

Camelia S. Sima, M.D., M.S., of Memorial Sloan-Kettering Cancer Center, New York, and colleagues examined the extent to which patients with advanced cancer continue to undergo screening for new cancers and

identified characteristics associated with screening. The study included data on 87,736 fee-for-service Medicare enrollees ages 65 years or older diagnosed with advanced lung, colorectal, pancreatic, gastroesophageal, or breast cancer between 1998 and 2005, and reported to one of the Surveillance, Epidemiology, and End Results (SEER) tumor registries. Participants were followed up until death or December 2007, whichever came first. A group of 87,307 Medicare enrollees without cancer were individually matched by age, sex, race, and SEER registry to patients with cancer and observed over the same period to evaluate screening rates in context. For both groups, utilization of cancer screening procedures (mammography, Papanicolaou test, PSA, and lower gastrointestinal [GI] endoscopy) was assessed. For each cancer screening test, utilization rates were defined as the percentage of patients who were screened following the diagnosis of an incurable cancer.

The researchers found that among women, following advanced cancer diagnosis compared with controls, at least 1 screening mammogram was received by 8.9 percent vs. 22.0 percent and Papanicolaou test screening was received by 5.8 percent vs. 12.5 percent. Among men with advanced cancer, 15.0 percent received PSA testing compared with 27.2 percent of controls. For all patients following advanced diagnosis compared with controls, lower GI endoscopy was received by 1.7 percent vs. 4.7 percent. Screening was more frequent among patients with a recent history of screening. Higher socioeconomic status and married status were significantly associated with a higher probability of screening for each test evaluated.

"The strongest predictor of screening in the setting of advanced cancer was the receipt of a screening test before diagnosis. The most plausible interpretation of our data is that efforts to foster adherence to screening have led to deeply ingrained habits. Patients and their health care practitioners accustomed to obtaining screening tests at regular intervals continue to do so even when the benefits have been rendered futile in the

face of competing risk from advanced cancer," the authors write.

"Our results have several policy implications. First, greater awareness that screening in the face of limited life expectancy from advanced cancer is of dubious benefit may in and of itself limit use. Second, as electronic medical records and reminder systems are developed to foster screening adherence, they should also include program features that flag when conditions suggest re-evaluation or cessation of screening based on competing comorbidities. Electronic medical records increasingly have the sophistication to track cancer stage at diagnosis and disease status and to link this to screening reminder systems. Alternatively, the Medicare program might not provide coverage for cancer screening procedures for patients with life expectancy of less than 2 years."

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