



“Old classic cars” are hidden treasures: Colorectal cancer screening should be considered in unscreened persons over age 75

van Hees F, Habbema JD, Meester RG, Lansdorp-Vogelaar I, van Ballegooijen M, Zauber AG. Should colorectal cancer screening be considered in elderly persons without previous screening? A cost-effectiveness analysis. *Ann Intern Med* 2014; 160: 750-9.

Life expectancy and comorbidities are important factors in plan of a cancer screening. Colorectal cancer screening was shown to decrease the mortality of colorectal cancer (1,2). The U.S. Preventive Services Task Force recommends colorectal cancer screening beginning at age 50 years and continuing until age 75 (3). It did not recommend screening after 75 years for people who have been screened. It has not been clear if colon cancer screening is effective in older adults without previous screening.

In the June 2014 issue of the *Annals of Internal Medicine*, van Hees and colleagues' study was published to understand the effectiveness and costs of colorectal cancer screening in persons older than 75 years without prior screening by using MISCAN Microsimulation Screening Analysis-Colon model (4). They simulated the effects of screening in persons with and without comorbid conditions in a cohort of 10 million previously unscreened people between ages of 76 to 90 years. People without previous screening were compared with those with previous screening as the life expectancy decreased with increasing age and with comorbidities.

They assessed the screening strategies of colonoscopy, sigmoidoscopy and fecal immunochemical testing. The model evaluated variables to estimate the quality-adjusted life-years gained or lost with screening. It was sensitive both to the benefits of screening when life expectancy is long and to the harms of screening when life expectancy is short and screening does not prolong life. Colorectal cancer screening with colonoscopy was efficient and cost-effective for many older persons who were unscreened so far. In persons without any comorbid conditions, colonoscopy was most effective and

cost-effective until age 83 years, sigmoidoscopy at age 84 years, and fecal immunochemical testing at age 86 years. In persons with moderate and severe comorbidities, colonoscopy was indicated up to ages 80 and 77 years, sigmoidoscopy at 81 and 78 years, and fecal immunochemical testing at 83 and 80 years, respectively (4).

This study has important implications. For most of older persons it used to be reasonable to withhold screening. The study is the first to look at benefits and cost-effectiveness of colorectal screening beyond age 75 years without previous screening. They showed that one-time screening seems to be efficient with acceptable costs up to age 86 years. Assuming there is a willingness to pay was \$100,000 per quality-adjusted life-year gained in the study. Colonoscopy was the most successful and most costly strategy for one-time screening (4).

Life expectancy and the prevalence of colorectal cancer can alter among countries. Among persons who have never had colorectal cancer screening, those without comorbid conditions will benefit from colorectal cancer screening up to age 86 years, and even those with severe comorbid conditions will benefit with acceptable costs up to age 80 years (4).

The study of van Hees et al. (4) has a couple of limitations. They did not do a separate analysis for identifiable high-risk groups, such as older persons with a family history of colon cancer. Another limitation was the absence of separate analysis by sex and race. We also cannot estimate how the benefits, burden and harms of screening can affect persons' decisions about colon cancer screening in a microsimulation model study (4). We also know that detection rates of colonic adenomas during screening colonoscopy depend upon the experience of the colonoscopist (5).

Finally, we definitely want to underline the importance of a patient-centered approach. Sometimes we underestimate a valued treasure of a human-being by cost-effectiveness evaluation. If we have an old classic car we cocker on it. However we may easily disregard hidden value of our parents until they die. Actually, there is no

meter to measure it. Colonoscopy should be considered well beyond 75 years persons without a fatal illness. However, the patients' preferences and values should be the priority in addition to risk and benefit evaluation. Development of new cheap, easy, safe and effective screening strategies are definitely appreciated.

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