

Cost-effectiveness in the prevention of colorectal cancer.

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In cost-effectiveness analyses of cancer prevention, the ratio of cost and medical effectiveness serves as the primary measure for comparing various strategies, effectiveness being measured in terms of (quality adjusted) life-years gained through medical intervention. Such analyses are reliable in comparing different medical management strategies and revealing the most important factors to influence their cost-effectiveness ratios, but less helpful in judging the general merit of a given medical strategy. Models of medical decision making are used to simulate the natural history of colorectal cancer and test how it becomes affected by various means of screening and prevention. The analyses suggest that, compared with no prevention, a single colonoscopy at age 65 is the most cost-effective means of cancer prevention in the general population, followed by screening colonoscopy every ten years or screening colonoscopy every ten years plus chemoprevention with daily aspirin. Other means of prevention, involving annual fecal occult blood testing or flexible sigmoidoscopy every 5-10 years, are dominated by cheaper and more effective strategies. Economic and decision models do not obviate the primacy of clinical data gathered through controlled clinical trials, since they cannot account for all factors that may eventually determine the cost-effectiveness of actual screening and cancer prevention.

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