Effective Health Care

CT Colonography versus Colonoscopy for Screening Colorectal Neoplasms Nomination Summary Document

Results of Topic Selection Process & Next Steps

- CT colonography versus colonoscopy for screening colorectal neoplasms was found to be addressed by a 2011 review by de Haan and colleagues. Given that the existing review covers this nomination, no further activity will be undertaken on this topic.
  - de Haan MC, Van Gelder RE, Graser A, Bipat S, Stoker J. Diagnostic value of CT-colonography as compared to colonoscopy in an asymptomatic screening population: a meta-analysis. European Radiology 2011; 21(8): 1747-63. PMID: 21455818

Topic Description

Nominator: Organization

Nomination Summary: The nominator is interested in the comparative effectiveness of CT colonography (MDCT) versus colonoscopy for screening colorectal neoplasms. The nominator is also interested in the effectiveness of MDCT in diagnosing early colon cancer and predicting cancer recurrence in the colon or rectum after initial treatment (compared to colonography or colonoscopy).

Staff-Generated PICO

Population(s): General adult population; adults at high risk for developing colorectal neoplasms; adults who have a history of colorectal neoplasms

Intervention(s): CT colonography (virtual colonoscopy)

Comparator(s): Optical colonoscopy

Outcome(s):

- Diagnostic accuracy (polyps, primary, recurrent colorectal and de novo neoplasms) with pathological confirmation as the reference standard
- Cancer-related morbidities, including quality of life and other patient-related outcomes (related to accurate diagnosis leading to immediate appropriate management or false negative test results resulting in delayed appropriate management)
- Cancer-related mortality (related to accurate diagnosis leading to immediate appropriate management or false negative test results resulting in delayed appropriate management)
- Unnecessary invasive testing, including biopsies and surgery (related to false positive test results)
- Unnecessary treatment, including surgery and further testing (related to false positive test results)

- Unnecessary costs (related to false positive test results)
- Anxiety and related conditions (related to false positive test results)
- Improvements in morbidity and mortality of colorectal cancer outcomes from early diagnosis or surveillance of precursor lesions
- Increased radiation exposure, harm caused by false positives (such as unnecessary biopsies, increased medical costs, increased stress due to medical diagnoses and treatments), under-diagnosis resulting in failure to achieve early diagnosis and early intervention
- Patient-centered outcomes (such as patient preference and patient satisfaction)

Key Questions from Nominator:

1. How good is the MDCT, and advanced type of CT scan that produces very accurate 3-dimensional images, to diagnose early colon cancer and to predict cancer recurrence (in the colon or rectum) after initial treatment (compared with colonography or colonoscopy)?

Considerations

- The topic meets EHC Program appropriateness and importance criteria. (For more information, see http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/.)

- Topic was found to be addressed by a 2011 systematic review titled "Diagnostic value of CT-colonography as compared to colonoscopy in an asymptomatic screening population: a meta-analysis". This meta-analysis addresses the diagnostic value of CT-colonography in comparison to colonoscopy in asymptomatic adults aged 50 to 75 years and included five prospective cohort studies with a total of 4,086 patients.