Effective Health Care

Imaging for Diagnosing and Staging Lung Cancer (SCLC and NSCLC) Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic, *Imaging for Diagnosing and Staging Lung Cancer,* as it relates to small cell lung cancer (SCLC), will go forward for refinement as a systematic review. The scope of this topic, including populations, interventions, comparators, and outcomes, will be further developed in the refinement phase.
  - When key questions have been drafted, they will be posted on the AHRQ Web site and open for public comment. To sign up for notification when this and other Effective Health Care (EHC) Program topics are posted for public comment, please go to http://effectivehealthcare.ahrq.gov/index.cfm/join-the-email-list1/.

- The topic, *Imaging for Diagnosing and Staging Lung Cancer*, as it relates to non-small cell lung cancer (NSCLC), was found to be addressed by a guideline from the National Institute for Health and Care Excellence (NICE), entitled *Lung cancer: the diagnosis and treatment of lung cancer* and the American College of Chest Physicians (ACCP) guideline, entitled *Diagnosis and management of lung cancer*. Given that the existing guidelines cover this key question, no further activity will be undertaken on this topic.
  - Silvestri G, Gonzalez A, Jantz M, Margolis M, et al. Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. Chest. 2013; 143(5 Suppl):e211S-50S.
  - Lung cancer: the diagnosis and treatment of lung cancer. London, England. National Clinical Guideline Center. 2011.

Topic Description

Nominator(s): Organization

Nomination Summary: The topic was identified as a priority for systematic review based on a topic identification stakeholder meeting held at the Tufts Medical Center, Evidence-based Practice Center. The nominators are concerned that there is insufficient clarity regarding the most effective imaging modalities to diagnose and stage lung cancer. A review of the evidence on imaging modalities to diagnose and stage lung cancer could aid in the development of clear clinical guidance. Additionally, the nominators have expressed an intention to distribute the results of an AHRQ product to patients, clinicians, and policy makers to improve clinical decision-making.

Population(s): Patients with suspected small cell or non-small cell lung cancer

Intervention(s): Imaging including computed tomography (CT), multi detector computed tomography (MDCT), positron emission tomography/ positron emission tomography-computed tomography (PET/PET-CT), and magnetic resonance imaging (MRI)
Comparator(s): Those listed above (i.e., compared to each other), usual care, which often involves a combination of imaging modalities and biopsies
Outcome(s): Morbidity, mortality, hospitalizations, occurrence of adverse events, and quality of life

Key Questions from Nominator:

Key Question #1: What is the comparative effectiveness of imaging including conventional CT, MDCT (including "virtual CT bronchoscopy"), PET/PET-CT, and MRI for the diagnosis or pretreatment staging of small cell lung cancer?

Key Question #2: What is the comparative effectiveness of imaging including conventional CT, MDCT (including "virtual CT bronchoscopy"), PET/PET-CT, and MRI for the diagnosis or pretreatment staging of non-small cell lung cancer?

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/.)
- More than 200,000 Americans are diagnosed with lung cancer annually, and approximately 160,000 Americans die as a result of the disease. Lung cancer is the leading cause of cancer-related mortality in the US.
- There are two main categories of lung cancer: small cell lung cancer (SCLC) and non-small cell lung cancer (NSCLC). NSCLC accounts for 85-90% of all cancer cases, while the remaining 10%-15% of cases are SCLC.
- In addition to categorization of type of lung cancer, lung cancer cases are also staged to describe the progression and extent of the case. There are several categorization systems currently in use for the staging of lung cancer.
- There is a lack of consensus among clinicians about the best imaging modalities to aid in diagnosis and staging of lung cancer, which leads to variance in clinical care. Improper use of imaging modalities may lead to incorrect staging and treatment planning for patients. The associated costs and adverse clinical outcomes are of particular concern due to the size of the affected population and the rapid progression of the condition.
- Based on a review of the literature for SCLC, there appears to be a sufficient amount of evidence on several imaging modalities to warrant an AHRQ review.
- Based on a review of the literature for NSCLC, while there are additional studies and clinical trials that address the key question, the topic is already effectively covered by existing evidence-based guidelines and systematic reviews, including a 2011 guideline from the National Institute for Health and Care Excellence (NICE), a 2013 guideline from the American College of Chest Physicians. Both address the use of a range of imaging modalities to diagnose (and treat) non-small cell lung cancer.