Effective Health Care

Radiotherapy for Improving Outcomes in Cancer Patients Nomination Summary Document

Results of Topic Selection Process & Next Steps

- Image-guided radiotherapy (IGRT) with intensity-modulated radiotherapy (IMRT) versus IMRT alone for improving outcomes in cancer patients will be considered for inclusion in updates to several existing AHRQ reports and could potentially be considered for new research projects within the Effective Health Care (EHC) Program.

Topic Description

Nominator: Organization

Nomination Summary: The nominator is interested in the comparative effectiveness of intensity-modulated radiation therapy (IMRT) with and without image-guided radiotherapy (IGRT) for improving outcomes among cancer patients.

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Population(s): Patients with selected cancers subject to movement or changes in patient positioning or with organs at risk close to the tumor, such as head and neck or prostate cancer
Intervention(s): IMRT with IGRT
Comparator(s): IMRT
Outcome(s): Radiation-related toxicities, progression-free survival, overall survival, quality of life

Key Questions from Nominator:

1. What is the comparative effectiveness of image-guided radiotherapy (IGRT) with conventional intensity-modulated radiotherapy (IMRT) (sometimes called 4D IMRT) versus IMRT alone for improving outcomes among cancer patients?

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/.)

- Radiotherapy for head and neck and prostate cancers is addressed by existing AHRQ reviews, including a 2008 comparative effectiveness review on localized treatment for prostate cancer, a 2010 technology assessment on radiation treatments for clinically localized prostate cancer, and a 2010

comparative effectiveness review on radiotherapy for head and neck cancers. These products do not address IGRT; however, IGRT will be considered for inclusion in the updates of these reports, making a separate report on IGRT alone potentially redundant.

- Wilt TJ, Shamliyan T, Taylor B, MacDonald R, Tacklind J, Rutks I, Koeneman K, Cho C-S, Kane RL. Comparative Effectiveness of Therapies for Clinically Localized Prostate Cancer. Comparative Effectiveness Review No. 13. (Prepared by Minnesota Evidence-based Practice Center under Contract No. 290-02-00009.) Rockville, MD: Agency for Healthcare Research and Quality. February 2008. Available at: www.effectivehealthcare.ahrq.gov/reports/final.cfm.

- Ip S, Dvorak T, Yu WW, Patel K, Obadan NO, Chung M, et al. Comparative Evaluation of Radiation Treatments for Clinically Localized Prostate Cancer: An Update. (Prepared by the Tufts Evidence-based Practice Center under contract no. 209 2007 10055 I.) Technology Assessment report. Rockville, MD: Agency for Healthcare Research and Quality. August 2010. Available at: (http://www.cms.gov/coveragegeninfo/downloads/id69ta.pdf.)

- Samson DJ, Ratko TA, Rothenberg BM, Brown HM, Bonnell CJ, Ziegler KM, Aronson N. Comparative Effectiveness and Safety of Radiotherapy Treatments for Head and Neck Cancer. Comparative Effectiveness Review No. 20. (Prepared by Blue Cross and Blue Shield Association Technology Evaluation Center Evidence-based Practice Center under Contract No. 290-02-0026.) Rockville, MD: Agency for Healthcare Research and Quality, May 2010. Available at: www.effectivehealthcare.ahrq.gov/reports/final.cfm.

- New research on this topic may include analysis of which of these radiotherapy technologies are used for different indications and how often.