



Title	Epidermal Growth Factor Receptor Mutation Analysis in Advanced Non-Small Cell Lung Cancer: Review of Economic Evaluations and Framework for Economic Analyses
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Reference	2010

Aim

To determine how to assess the cost effectiveness of epidermal growth factor receptor (EGFR) mutation analysis in identifying patients with advanced non-small-cell lung cancer who are likely to respond to treatment with tyrosine kinase inhibitors.

Conclusions and results

A framework for a decision analytic cost-utility analysis was developed to assess the cost effectiveness of EGFR mutation analysis compared versus the option of no EGFR mutation analysis. A systematic review of economic studies found limited evidence on the cost effectiveness of the EGFR mutation analysis, and one study (a conference presentation) was reviewed. The proposed modeling framework presented in this report was flexible, allowing analysts to adjust the model for jurisdictional needs in EGFR mutation tests and subsequent therapeutic regimens. With the accumulation of clinical evidence on the test validity and clinical utility of EGFR mutation analysis, analysts will be able to conduct formal cost-effectiveness analyses, which help guide future reimbursement decisions on EGFR mutation analysis.

Methods

A literature search encompassed key health technology assessment resources, international health technology agencies, and a focused Internet search. The search was limited to articles published in English. Filters were applied to limit retrieval to economic studies. Two independent reviewers screened articles using predefined criteria. A framework for a decision analytic cost-utility analysis was developed to assess the cost effectiveness of EGFR mutation analysis versus the option of no EGFR mutation analysis.