Effective Health Care

Erythropoiesis Stimulating Agents (ESAs) for Treatment of Anemia in Patients With Cancer or Renal Failure Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic of harms and benefits of ESA use in anemic cancer patients (adults and children) will be considered for an update to an existing AHRQ comparative effectiveness review titled *Comparative Effectiveness of Epoetin and Darbepoetin for Managing Anemia in Patients Undergoing Cancer Treatment*.

  - Seidenfeld J, Piper M, Bohlius J, Weingart O, Trelle S, Engert A, Skoetz N, Schwarzer G, Wilson J, Brunskill S, Hyde C, Bonnell C, Ziegler KM, Aronson N. Comparative Effectiveness of Epoetin and Darbepoetin for Managing Anemia in Patients Undergoing Cancer Treatment. Comparative Effectiveness Review No. 3. (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 2006. http://effectivehealthcare.ahrq.gov/repFiles/EPO%20Final.pdf

Post Topic Selection Process **UPDATE**:

- An update of the AHRQ comparative effectiveness review titled *Comparative Effectiveness of Epoetin and Darbepoetin for Managing Anemia in Patients Undergoing Cancer Treatment* is currently in process. The scope of this topic, including populations, interventions, comparators, and outcomes, will be further developed during the process of the review.

- When a draft of this update is completed, it will be posted on the AHRQ Web site and open for public comment. To sign up for notification when this and other EHC Program topics are posted for public comment, please go to http://effectivehealthcare.ahrq.gov/getinvolved.cfm?involvetype=subscribe.

- The topic of harms and benefits of ESA use in anemic adults with chronic renal failure was found to be addressed by a health technology assessment by the Canadian Agency for Drugs and Technologies in Health (CADTH) titled *Erythropoiesis-Stimulating Agents for Anemia of Chronic Kidney Disease: Systematic Review and Economic Evaluation* published in 2008. Given that the report covers this nomination, no further activity will be undertaken on this topic.

  - Tonelli M, Klarenbach S, Wiebe N, Shrive F, Hemmelgarn B, Manns B. *Overview of Erythropoiesis-Stimulating Agents for Anemia of Chronic Kidney Disease: Systematic Review and Economic Evaluation* [Technology overview number 42]. Ottawa: Canadian Agency for Drugs and Technologies in Health; 2008. http://cadth.ca/media/pdf/O0459_Erythropoiesis_to_e.pdf

- The topic of harms and benefits of ESA use in anemic children with chronic renal failure is not feasible for a full systematic review due to the limited data available for a review at this time.

Topic Description

Nominators: 1 individual, 1 public payer, 1 national non-governmental advisory group

Nomination Summary: The nominators are interested in the harms and benefits of the ESAs epoetin alfa (Epogen and Procrit) and darbepoetin (Aranesp) for the treatment of anemia in patients with cancer and chronic renal failure or end-stage renal disease (ESRD).

Population(s): Anemic patients (adults and children) with cancer (all types, receiving or not receiving chemotherapy and/or radiotherapy) and anemic patients with chronic kidney disease/renal failure (on dialysis and not on dialysis)
Intervention(s): Use of epoetin and darbepoetin (ESAs) for the treatment of anemia
Comparator(s): Red blood cell transfusion
Outcome(s): Risks and benefits of ESAs vs blood transfusion, including thromboembolic and cardiovascular events, hypertension, survival, tumor progression, quality of life, hemoglobin levels, and number of transfusions.

Key Questions from Nominator: None

Considerations

- This topic has three main areas of focus:
  1. Harms and benefits of ESA use in anemic cancer patients (adults and children)
  2. Harms and benefits of ESA use in anemic chronic renal failure patients (adults)
  3. Harms and benefits of ESA use in anemic chronic renal failure patients (children)

- 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/.)

- The topic of harms and benefits of ESA use in anemic cancer patients (adults and children) will be considered for an update to an existing AHRQ comparative effectiveness review titled *Comparative Effectiveness of Epoetin and Darbepoetin for Managing Anemia in Patients Undergoing Cancer Treatment*. The key questions for the original 2006 report are:

  1. What are the comparative efficacy and safety of epoetin (alfa or beta) and darbepoetin?
  2. How do alternative dosing strategies affect the comparative efficacy and safety of epoetin and darbepoetin?
  3. How do alternative thresholds for initiating treatment or alternative criteria for discontinuing therapy or duration of therapy affect the efficacy and safety of erythropoietic stimulants?
  4. Are any patient characteristics at baseline or early hematologic changes useful to select patients or predict responses to treatment with erythropoietic stimulants?

- The topic of harms and benefits of ESA use in anemic adults with chronic renal failure was found to be addressed by a recent health technology assessment by CADTH titled *Erythropoiesis-Stimulating*

Agents for Anemia of Chronic Kidney Disease: Systematic Review and Economic Evaluation. The aim of this review was to assess the evidence for clinical efficacy and harms and the economic implications of ESA use in adult patients with anemia and chronic kidney disease. There is very little new evidence on this topic that is not covered by this report; therefore, an additional review on ESA use in this population is not warranted at this time.

- Only one relevant study was identified that addresses ESA use for treatment of anemia in children with chronic renal failure; therefore, the topic is not feasible for a full systematic review due to the limited data available for a review at this time.