



## Effective Health Care

### Aspirin for Cancer Prevention Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- The topic, *Aspirin for Cancer Prevention*, is being addressed by an in process review being prepared for the US Preventive Services Task Force (USPSTF). Given that this ongoing activity covers this nomination, no further activity will be undertaken on this topic.
- Aspirin Use for the Primary Prevention of Cancer. Final Research Plan. Rockville, MD: US Preventative Task Force, October 2013.  
<http://www.uspreventiveservicestaskforce.org/uspstf13/asprcolo/asprcanfinalresplan.htm>
- To sign up for notification when this and other USPSTF topics are posted, please go to:  
<http://www.ahrq.gov/clinic/prevenix.htm>.

#### Topic Description

**Nominator(s):** Health care professional association

**Nomination Summary:** The nominator is interested in the effectiveness of aspirin in reducing the overall incidence of all cancers as well as cancer mortality. The nominator has also indicated an interest in determining what patient subgroups would benefit the most from aspirin therapy for cancer prevention.

##### Staff-Generated PICO

**Population(s):** Individuals 18 years and older (i.e., all adults)

**Intervention(s):** Aspirin and other non-steroidal anti-inflammatory drugs

**Comparator(s):** Those listed above (e.g., compared to each other) and usual care

**Outcome(s):** Cancer incidence, mortality

**Key Questions from Nominator:**

1. What is the effectiveness of aspirin therapy in reducing overall cancer incidence?
  - a. Does the effectiveness vary by cancer subtype, gender, age or other risk factors?
2. What is the effectiveness of aspirin therapy in reducing overall cancer mortality?
  - a. Does the effectiveness vary by cancer subtype, gender, age or other risk factors?
3. If there is benefit, what subgroups have been shown to benefit most?
4. What are the harms associated with aspirin therapy and what subgroups are most at risk for harm?

## 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/>.)
- Aspirin, also known as acetylsalicylic acid, is a non-steroidal anti-inflammatory drug (NSAID) that is often used to treat fevers, pain, and headaches. The overall clinical value of aspirin and other NSAIDs as a possible strategy for cancer prevention is unclear. Studies suggest that aspirin may have a prophylactic (preventive) effect against certain cancers such as colorectal, breast, and lung cancer. While the specific molecular mechanism of cancer prevention is undefined, NSAIDs block cyclooxygenase (COX) enzymes, which is produced by the body when there is inflammation and also produced by some precancerous tissues.
- This topic was found to be addressed by an in process review being conducted for the USPSTF report titled *Aspirin Use for the Primary Prevention of Cancer*. Key questions include the following:
  - Does regular aspirin use reduce total cancer mortality or all-cause mortality in adults who take (or are eligible for taking) aspirin for the primary prevention of cancer?
  - Does regular aspirin use reduce the incidence of cancer in adults who take (or are eligible for taking) aspirin for the primary prevention of cancer?
  - Does regular aspirin use reduce colorectal cancer mortality in adults without a history of colorectal cancer, familial adenomatous polyposis (FAP), or Lynch syndrome?
  - Does regular aspirin use reduce the incidence of colorectal cancer in adults without a history of colorectal cancer, FAP, or Lynch syndrome?
  - Does regular aspirin use reduce the incidence of colorectal adenoma in adults without a history of colorectal cancer, FAP, or Lynch syndrome?
  - What are the serious harms of regular aspirin use for the primary prevention of cancer (at the dosage and duration required to achieve a preventive health effect) in adults who are appropriate for aspirin chemoprevention?
  - What are the serious harms of regular aspirin use for the prevention of colorectal cancer (at the dosage and duration required to achieve a preventive health effect) in adults without a history of colorectal cancer, FAP, or Lynch syndrome?=
    - The search for systematic reviews and primary literature indicates that a systematic review on other cancer sites such as breast and lung may be feasible.