Agency for Healthcare Research and Quality (AHRQ)

Electronic Preventive Services Selector (ePSS)

API Instructions for Use

Agency for Healthcare Research and Quality

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ePSS API Instructions for Use

Overview

The Electronic Preventive Services Selector (ePSS) is an application designed to help primary care clinicians identify the screening, counseling, and preventive medication services that are appropriate for their patients. The ePSS API utilizes Representational State Transfer (REST) architecture to return USPSTF Recommendations data over http from the ePSS server that can be integrated into other third-party web and mobile applications. The data requested via the API is retrieved by specific patient characteristics, such as age, sex, and selected behavioral risk factors and structured with JavaScript Object Notation (JSON) to provide ePSS data in a lightweight, text-based, and human-readable format.

The ePSS Web application can be accessed at http://epss.ahrq.gov/ePSS. Visit http://epss.ahrq.gov/PDA/products.jsp for more information on additional ePSS products. The following instructions provide field descriptions, object format and sample code/queries to implement and request JSON formatted ePSS content.

Search

The following search parameters can be passed to filter the search results:

- age: integer
- sex: Male, Female
- pregnant: Y, N (requires sex of Female)
- tobacco: Y, N
- sexuallyActive: Y, N
- grade: A, B, C, D, I (multiple values)

*If tobacco or sexuallyActive are undefined, results for those are included in the final set.

**If sex is female and pregnancy is undefined, pregnancy results are not included.

The following are search filter examples:

/?age=15

/?age=36&sex=Female&pregnant=Y

/?tobacco=N

/?tobacco=N&grade=A&grade=B

Additionally a set of recommended online resources may be fetched by setting:

?tools=y.

This action overrides all other parameters. The Tools response is detailed at the end of the document.

The following is a basic format of the search response object:

specificRecommendations: [{"key": "string/integer" .. }],

grades: { "key": ["string","string"] .. },

generalRecommendations: { "key": { "key": "string/ integer array" ..} .. }

Specific Recommendations

The specificRecommendations array is sorted in the same order as the standard ePSS Web search. Each object in the array represents a single specific recommendation aimed at a target population. The following are specificRecommendations fields:

- id: integer identifying this specific recommendation
- title: title
- grade: grade the recommendation was given. Indexes into the grades object. see grades
- gradeVer: the version of the grade. index into the grade array. see grades
- text: HTML format - text of the recommendation
- rationale: (optional) HTML format - rationale for this recommendation. A fallback if a general rationale is not provided.
- url (optional) URL associated with the recommendation
- servFreq (optional) frequency of service
- riskName (optional) risk factor name
- riskText (optional) HTML format - risk factor comments
- general: integer to index into the generalRecommendations object. see generalRecommendations

Grades

The grades object consists of letter grade keys associated with an array of grade versions. Each array element consists of the text of the USPSTF recommendation for that grade and version.

The following is a JavaScript code example of a grade look up using a specific recommendation:

```
var recom = results.specificRecommendations[0];

var gradeText = results.grades[recom.grade][recom.gradeVer];
```

General Recommendations

The generalRecommendations object consists of integer keys associated with a general recommendation object. The specific recommendation is targeted at a population. The general recommendation is broader.

The following is an example of the general recommendation look up for a specific recommendation:

```
var recom = results.specificRecommendations[0];

var general = results.generalRecommendations[recom.general];
```

The following are the generalRecommendations fields:

- specific: Array of integers identifying specific recommendations associated with this general
- title: title
- rationale (optional): HTML format - rationale for this recommendation. If rationale is not defined at the general level, display the specific rationale instead.
- clinical: HTML format - text of the clinical consideration
- clinicalUrl (optional): URL associated with the clinical consideration

- other (optional): HTML format - other recommendation text
- otherUrl (optional): URL associated with the other recommendation text
- topic: this recommendation's topic

Tools

The following are tools response and the format of the tools object:

tools: [{"key": "string" .. } ..]

The tools array is ordered by title. The following are the Tools fields:

- title: title
- url: optional - URL where the tool is located.
- text: HTML format - text describing the tool

Sample JSON Code


```
{
   "note": "Use /json_compact.jsp to skip indentation whitespace.  See readme.txt for specific usage instructions.",
   "specificRecommendations":
   [
      {
         "id": 175,
         "title": "<b>Aspirin to Prevent CVD</b>:  Men age 45 to 79 to prevent myocardial infarctions",
         "grade": "A",
         "gradeVer": 1,
         "text": "<br>The USPSTF recommends the use of aspirin for men age 45 to 79 years when the potential benefit due to a reduction in myocardial infarctions outweighs the potential harm due to an increase in gastrointestinal hemorrhage. <br>",
         "servFreq": "Although the optimal timing and frequency of discussions related to aspirin therapy are unknown, a reasonable option might be every 5 years in middle age and later and also whenever other cardiovascular risk factors are detected.",
         "riskName": "Other",
         "riskText": "The net benefit of aspirin depends on the initial risk for coronary heart disease events and gastrointestinal bleeding. Thus, decisions about aspirin therapy should consider the overall risks for coronary heart disease and gastrointestinal bleeding.</p>\r\n<p>Risk assessment for coronary heart disease should include ascertainment of risk factors: age, diabetes, total cholesterol levels, high-density lipoprotein cholesterol levels, blood pressure, and smoking. Available tools provide estimations of coronary heart disease risk.",
         "general": "97"
      },{
         "id": 176,
         "title": "<b>Aspirin to Prevent CVD</b>: Women age 55 to 79 to prevent ischemic strokes",
         "grade": "A",
         "gradeVer": 1,
         "text": "<br>The USPSTF recommends the use of aspirin for women age 55 to 79 years when the potential benefit of a reduction in ischemic strokes outweighs the potential harm of an increase in gastrointestinal hemorrhage.<br>",
         "servFreq": "Although the optimal timing and frequency of discussions related to aspirin therapy are unknown, a reasonable option might be every 5 years in middle age and later and also whenever other cardiovascular risk factors are detected.",
         "riskName": "Other",
         "riskText": "The net benefit of aspirin depends on the initial risk for coronary heart disease events and gastrointestinal bleeding. Thus, decisions about aspirin therapy should consider the overall risks for coronary heart disease and gastrointestinal bleeding.</p>\r\n<p>Risk assessment for coronary heart disease should include ascertainment of risk factors: age, diabetes, total cholesterol levels, high-density lipoprotein cholesterol levels, blood pressure, and smoking. Available tools provide estimations of coronary heart disease risk.",
         "general": "97"
      },{
         "id": 162,
         "title": "<b>Asymptomatic Bacteriuria:</b> Screening -- Pregnant Women",
         "grade": "A",
         "gradeVer": 1,
         "text": "<br>The USPSTF recommends screening for asymptomatic bacteriuria with urine culture for pregnant women at 12 to 16 weeks' gestation or at the first prenatal visit, if later.<br><br>",
         "servFreq": "<br>All pregnant women should provide a clean-catch urine specimen for a screening culture at 12 to 16 weeks' gestation or at the first prenatal visit, if later. The optimal frequency of subsequent urine testing during pregnancy is uncertain.<br><br>\r\n\r\n",
         "riskName": "Pregnant",
         "general": "90"
      },{
         "id": 31,
         "title": "<b>Cervical Cancer</b>: Screening -- Women who are sexually active",
         "grade": "A",
         "gradeVer": 0,
         "text": "<br>The USPSTF strongly recommends screening for cervical cancer in women who have been sexually active and have a cervix. <br><br>\r\n",
         "rationale": "The USPSTF found good evidence from multiple observational studies that screening with cervical cytology (Pap smears) reduces incidence of and mortality from cervical cancer. Direct evidence to determine the optimal starting and stopping age and interval for screening is limited. Indirect evidence suggests most of the benefit can be obtained by beginning screening within 3 years of onset of sexual activity or age 21 (whichever comes first) and screening at least every 3 years (go to Clinical Considerations). The USPSTF concludes that the benefits of screening substantially outweigh potential harms.\r\n",
         "servFreq": "<br>Indirect evidence suggests most of the benefit can be obtained by beginning screening within 3 years of onset of sexual activity or age 21 (whichever comes first) and screening at least every 3 years.<br><br>",
```