Supplementary Online Content


**eAppendix 1.** Coding Specification for Measuring 9 of the Earliest Choosing Wisely Recommendations Using Administrative Claims Data

**eAppendix 2.** Choosing Wisely Low-Value Services—Descriptive Results

This supplementary material has been provided by the authors to give readers additional information about their work.
eAppendix 1. Coding Specification for Measuring 9 of the Earliest Choosing Wisely Recommendations Using Administrative Claims Data

Note: Please refer to Table 1 in the body of the manuscript for description of rationales and rules behind denominator or numerator definitions.

Restrictions: Application of these measures is restricted to academic and research use only. Commercial use is strictly forbidden.

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Disclaimers: The reporting of these measures are the sole responsibility of the co-authors listed in Appendix A and individuals listed in Acknowledgements.

<table>
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<th>Measures for 7 of the earliest Choosing Wisely Recommendations from April 2012 release</th>
<th>Persons</th>
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<td>1 Headache imaging</td>
<td>Alan Rosenberg, MD, Lead author, Overall physician supervision</td>
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<td>2 Cardiac imaging</td>
<td>Ying Liu, MS, Co-author, Operationalize measure</td>
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<td>3 Preoperative Chest X-rays</td>
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<td>Marc Gottlieb, MPA, Co-author, Supervision of operational measures</td>
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<td>Ying Liu, MS, Co-author, Operationalize measure</td>
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**Acknowledgments:** The following individuals provided oversight, designed measures, conducted critical review of measures or technical assistance.

Geoffrey B. Crawford, MD, MS, Primary design and review of measures
Jeffrey Clyman, MD, Primary oversight of algorithm construction, Critical review of measures
Weihong Huang, MD, MS, Measure logic integrity and quality review
David Wetzel, PharmD, Pharmacy code set development
Jevon Mitsuoka, PharmD, Pharmacy code set development, pharmacy measure support
David S. Chiou, BA, Technical review of measures, Critical technical assistance
Geraldine Nojadera, BS, CCS, Medical, laboratory and procedure code set development

**Abbreviations**

CPT    Current Procedural Terminology
ICD-9  International Statistical Classification of Diseases, Ninth Edition
HCPCS  Healthcare Common Procedure Coding System
LOINC Logical Observations Identifiers Names and Codes
NDC    National Drug Code
REV    Revenue Codes
HEDIS   Healthcare Effectiveness Data and Information Set
NSAIDs  Nonsteroidal anti-inflammatory drugs
MSK    Musculoskeletal Pain
HPV    Human papilloma virus
### eAppendix 2. Choosing Wisely Low-Value Services – Descriptive Results

**Diagnostic Imaging**

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<tr>
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## Diagnostic Imaging

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## Cervical Cancer Screening

### HPV Testing

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CI=confidence interval; HPV=human papillomavirus; LL=lower limit; NSAIDS=nonsteroidal anti-inflammatory agents; UL=upper limit

<sup>a</sup>A 5% random sample was used to construct a metric on this recommendation

<sup>b</sup>An 8% random sample was used to construct a metric on this recommendation

<sup>c</sup>Cohort denominator

<sup>d</sup>Cohort numerator

<sup>e</sup>Pre-dates publication of the Choosing Wisely recommendation analyzed

<sup>f</sup>Upper limit for statistical process chart = average + standard deviation (one sigma)

<sup>g</sup>Lower limit for statistical process chart = average – standard deviation (one sigma)