Evaluating the evidence for Choosing Wisely in primary care using the Strength of Recommendation Taxonomy (SORT)

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The problem of overuse in health care

• 2012 systematic review found 172 studies (53 on procedures, 38 on diagnostic tests, 81 on medications)

• Most commonly studied overused services
  – Antibiotics for URIs
  – Coronary angiography
  – Carotid endarterectomy
  – Coronary artery bypass grafting

• Overtreatment estimated to represent between $158-226 billion of wasteful health care spending in 2011
Overuse is a problem in primary care

- From 1999 to 2009, only 2 of 11 ambulatory overuse quality indicators improved
  - Cervical cancer screening for women age >65
  - Antibiotics for asthma exacerbations
- 1 became worse
  - Prostate cancer screening in men age >74
- 8 did not change
  - Mammography in women age >75
  - Screening ECG, UA, CBC, chest x-ray
  - Imaging for acute back pain
  - Antibiotics for URI and acute bronchitis
Choosing Wisely: background

- 2009 National Physicians Alliance *Good Stewardship Project*
  - “Five things to question” in FM, IM, Pediatrics
  - 15 interventions = $5 billion wasted per year
- 2010 Howard Brody editorial in *NEJM*
  - Challenged specialties to create “Top 5” lists of routinely performed, high cost tests or interventions lacking evidence-based support
- 2012-2015 Choosing Wisely campaign
  - To date, more than 70 medical societies have published lists containing nearly 400 questionable interventions
## Clinician Lists

Complete lists of recommendations by society can be found by clicking the society name or via individual recommendation pages.

<table>
<thead>
<tr>
<th>Society</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Urological Association</td>
<td>Don’t remove synthetic vaginal mesh in asymptomatic patients.</td>
</tr>
<tr>
<td>American Urological Association</td>
<td>Don’t prescribe antimicrobials to patients using indwelling or intermittent</td>
</tr>
<tr>
<td></td>
<td>catheterization of the bladder unless there are signs and symptoms of urinary</td>
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<tr>
<td></td>
<td>tract infection.</td>
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<tr>
<td>American Urological Association</td>
<td>Offer PSA screening for detecting prostate cancer only after engaging in shared</td>
</tr>
<tr>
<td></td>
<td>decision making.</td>
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<tr>
<td>American Urological Association</td>
<td>Don’t obtain computed tomography scan of the pelvis for asymptomatic men with</td>
</tr>
<tr>
<td></td>
<td>low-risk clinically localized prostate cancer.</td>
</tr>
<tr>
<td>American Urological Association</td>
<td>Don’t diagnose microhematuria solely on the results of a urine dipstick (</td>
</tr>
<tr>
<td></td>
<td>macroscopic urinalysis).</td>
</tr>
<tr>
<td>American Urogynecologic Society</td>
<td>Avoid using synthetic or biologic grafts in primary rectocele repairs.</td>
</tr>
</tbody>
</table>
Search recommendations from the Choosing Wisely campaign

Search by one or more of the following criteria.

Keyword:  

Topic Areas:  Select...

Sponsors:  Select...

Source:  Select...

Search  Show All  Reset
Study Objective

• To systematically rate the quality of evidence supporting primary care-relevant recommendations from the American Board of Internal Medicine Foundation’s Choosing Wisely campaign using a strength of recommendation taxonomy developed specifically for family medicine.
Methods

• KL reviewed all Choosing Wisely recommendations released by June 2014
• Study inclusion criterion
  – Likely to be provided by family physicians or referred by family physicians
• Exclusion criterion
  – Services exclusively ordered and/or performed by subspecialists
• 224 recommendations identified as relevant to primary care
Strength of Recommendation Taxonomy (SORT)

- A: Consistent, good-quality patient-oriented evidence
- B: Inconsistent or limited-quality patient-oriented evidence
- C: Consensus, disease-oriented evidence (intermediate/surrogate outcomes), usual practice, expert opinion, or case series
Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?

- No → Strength of Recommendation not needed
- Yes → Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost)?

- No → Strength of Recommendation = C
- Yes → Is the recommendation based on expert opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case series study?

- No → Strength of Recommendation = B
- Yes → Is the recommendation based on one of the following?
  - Cochrane Review with a clear recommendation
  - USPSTF Grade A recommendation
  - Clinical Evidence rating of Beneficial
  - Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
  - Validated clinical decision rule in a relevant population
  - Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same

- Yes → Strength of Recommendation = A
Methods, cont’d

• KL and JY independently applied the SORT taxonomy to each of the 224 primary care-relevant CW recommendations, using the citations supplied by the nominating organization.

• Differences in assigned letter grades were resolved by consensus.

• After evidence ratings were complete, recommendations were categorized by relevant body system and proportions of ratings analyzed overall and within categories.
<table>
<thead>
<tr>
<th>Category</th>
<th>Total # of recs</th>
<th>SORT A</th>
<th>SORT B</th>
<th>SORT C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergy/Immunology</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Pediatrics</td>
<td>26</td>
<td>7</td>
<td>11</td>
<td>8</td>
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<tr>
<td>Cardiovascular</td>
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<td>5</td>
<td>22</td>
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<tr>
<td>Geriatric</td>
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<td>9</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Endocrinologic</td>
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<td>0</td>
<td>4</td>
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<tr>
<td>Gastrointestinal</td>
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<td>3</td>
<td>3</td>
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<tr>
<td>Women’s Health</td>
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<td>8</td>
<td>11</td>
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<tr>
<td>Hematology/Oncology</td>
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<td>6</td>
<td>10</td>
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<tr>
<td>Infectious Disease</td>
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<td>6</td>
<td>6</td>
</tr>
<tr>
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<td>4</td>
<td>13</td>
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<tr>
<td>Orthopedic</td>
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<td>Other</td>
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<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Pulmonologic</td>
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<td>2</td>
<td>4</td>
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<tr>
<td>Rheumatologic</td>
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<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Surgical</td>
<td>17</td>
<td>7</td>
<td>0</td>
<td>10</td>
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<tr>
<td><strong>OVERALL</strong></td>
<td><strong>224</strong></td>
<td><strong>43 (19%)</strong></td>
<td><strong>57 (25%)</strong></td>
<td><strong>124 (55%)</strong></td>
</tr>
</tbody>
</table>
Results

• 224 CW recommendations relevant to primary care as of June 2014
  – 43 (19%) SORT A
  – 57 (25%) SORT B
  – 124 (55%) SORT C

• Strength of evidence by body system
  – Only Ortho (6/11, 55%) had majority SORT A
  – No SORT A recs: CV, GI, Psych, Pulm, Rheum, Urology
Results, cont’d

- Of the 124 “C” rated recommendations, 11 were unlikely to be upgraded to “A” or “B” by future studies
  - Self-evident
  - Too vague or broad to be proven
- Examples
  - “Use methods to reduce radiation exposure in cardiac imaging whenever possible, including not performing such tests when limited benefits are likely.”
  - “Don’t prescribe opioid analgesics as long-term therapy to treat chronic non-cancer pain until the risks are considered and discussed with the patient.”
Conclusions

- Most Choosing Wisely recommendations are intended to reduce overdiagnosis and/or overtreatment.
- A majority of primary care-relevant recommendations are based on expert consensus or disease-oriented evidence.
- Further research is warranted to strengthen the evidence base supporting these recommendations to improve their acceptance and implementation into primary care practices.
References


References – cont’d

- Morden NE. Choosing Wisely – the politics and economics of labeling low-value services. NEJM 2014;370:589-592.