Understanding and Reducing Overuse of Potentially Harmful Screening Tests

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It is just a screening test; what is the harm in having it done? While many screening tests are beneficial, some do more harm than good. Overuse of potentially harmful clinical preventive services is a dangerous and costly problem facing primary care in the United States.

How can a screening test cause harm? Harms fall into different categories such as physical, emotional/psychological, and costs:

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<thead>
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<th>Physical</th>
<th>Emotional/Psychological</th>
<th>Costs</th>
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<tbody>
<tr>
<td>• Injury from screening or follow-up testing</td>
<td>• Stress</td>
<td>• Time or effort that could be directed to</td>
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<td>• Injury from potentially unnecessary treatment</td>
<td>• Anxiety/Worry</td>
<td>something more beneficial</td>
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<td></td>
<td>• Fear</td>
<td>• Financial costs to the patient and health</td>
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In this study we sought to understand how individuals think about the harms of screening tests and how to best present information about those harms to patients. We focused on a number of services that are not recommended, such as using the prostate-specific antigen (PSA) test to screen all men ages 50-69 for prostate cancer.

**Big Questions**

1. How do patients think about screening tests and their potential harms?
2. What factors do patients consider when making decisions about screening? What is their knowledge base? What are their attitudes?
3. Does intent to accept a screening test change when information about the harms of a test is presented in different formats?

We tested a number of formats to communicate harms:

- Using words such as “rare”, “unlikely”, “likely”
- Using numbers such as “4 out of 1000”
- Using patients’ stories modeling decision making in the face of harms
- Making comparisons between the benefits of screening versus not

The stories and comparisons included numbers rather than words to describe harms. Further, all presentations included information about both the immediate harms of screening and the delayed harms from additional work-up and treatment.
What Did We Learn?
Currently, it is not clear how to best reduce the overuse of potentially harmful screening services.

Through interviews with patients we learned that:
- Generally, patients don’t think about harms, and few patients can name harms of screening.
- When patients do name harms, they focus on the immediate harms of the screening test, not future related harms such as unnecessary follow-up testing.

Through testing the educational materials we learned that:
- Fewer than half of patients recognize that screening can cause harm.
- Patients more strongly endorse the benefits of screening than the harms of screening, and this is correlated with lower education and lower numeracy.
- Patients broadly endorse screening as the “right” and “responsible” thing to do, a view that is correlated with the anticipated regret of not screening.
- Presenting evidence-based information on harms of screening to patients has little effect on their decision about whether or not to be screened.
- None of the presentation formats we studied (words, numbers, patient stories, comparisons of being screened or not) was superior to others in reducing intent for screening.

What Does This Mean?
More awareness of the potential harms of screening tests is needed. However, information alone is unlikely to be enough to change behavior.

Future work on communicating the harms of screening should:
- Test alternate strategies for communicating harms, including:
  - Highlighting the financial and opportunity costs of decisions
  - Highlighting the potential for diagnosing and treating harmless and untreatable diseases
  - Altering the language or risk communication used to describe harms
  - Testing persuasive strategies (e.g. appealing to cultural cues)
  - Providing special support to low literacy and other disadvantaged decision-makers
- Target harms communication to providers as well as patients

Where to Learn More

For more information on this project please visit www.smart-screening.org