Research Centers for Excellence in Clinical Preventive Services

Working to get the right services, to the right people, at the right time

UNC Research Center for Excellence in Clinical Preventive Services

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Center Location
Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill

Center Focus
Appropriate Use of Clinical Preventive Services

The Center seeks to understand and encourage appropriate use of screening through an integrated research agenda.

Center Director
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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:

Physical	Emotional/Psychological	Costs
• Injury from screening or follow-up testing • Injury from potentially unnecessary treatment	• Stress • Anxiety/Worry • Fear	• Time or effort that could be directed to something more beneficial • Financial costs to the patient and health care system

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.

Understanding and Reducing Overuse of Potentially Harmful Screening Tests

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

Harris RP, Sheridan SL, Lewis CL, Barclay C, Vu MB, Kistler CE, Golin CE, DeFrank JT, Brewer NT. The harms of screening: a proposed taxonomy and application to lung cancer screening. JAMA Intern Med. 2014;174(2):281-285. doi:10.1001/jamainternmed.2013.12745. Published online December 9, 2013.

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

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