

What are the benefits and harms of cancer screening? Most guidelines don't tell you

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Screening for cancer has many obvious benefits - you're preventing cancer or catching it early. But each screening tool also comes with potential harms or risks.

A new study finds most [cancer screening guidelines](#) do not clearly spell out the benefits and harms of the recommended actions.

Researchers from the University of Michigan Health System examined 55 professional guideline recommendations for cancer screening or prevention. They found 69 percent did not quantify and present benefits and harms in comparable terms.

"Almost all medical interventions have tradeoffs between different types of benefits and harms," says Tanner J. Caverly, M.D., MPH, clinical lecturer of internal medicine at the University of Michigan Medical School and a research investigator at the VA Ann Arbor Healthcare System Center for Clinical Management Research.

"Patients rely on doctors to base screening recommendations on sound judgment as to whether, in their individual context, the benefits outweigh the harms. For this judgment, doctors need a clear understanding, in quantitative and comparable terms, about the degree of potential benefit and the degree of potential harm."

The study, published in the *Journal of the National Cancer Institute*, looked at guidelines such as mammography screening for breast cancer,

PSA testing for prostate cancer, colonoscopy for colon cancer, HPV vaccination for cervical cancer and other screening tests. Guidelines were from agencies such as the U.S. Preventive Services Task Force, the American Cancer Society and the National Comprehensive Cancer Network.

The researchers found that 31 percent of guidelines recommending screening presented absolute effects for both benefits and harms. Meanwhile, 55 percent presented the tradeoffs unevenly, explaining the benefit but not the harm or presenting the numbers in different ways.

For example, some studies used relative risk reduction, often a larger number, to show benefit - people who were screened were twice as likely to survive. But they used absolute risk, often a much smaller number, to demonstrate harm - 1 percent of people screened had a false diagnosis.

"By unevenly presenting the statistics, guidelines can unintentionally give a false picture of the benefits and harms. The relative risk of "twice as likely" sounds significant, but in terms of absolute risk it might represent a very small difference," said senior author Angela Fagerlin, Ph.D., professor and chair at the University of Utah's Department of Population Health Sciences and a research scientist at the Salt Lake City VA.

The researchers suggest that guidelines should quantify and present all important benefit and harm information in a well-designed table or graphic, so that they can be easily compared.

"Improving how guidelines present the [benefits](#) and harms would help doctors better understand the trade-offs and facilitate informed discussions with patients. It would also help us to build better decision support tools for physicians," says Caverly, who is also a member of the U-M Institute for Healthcare Policy and Innovation.

More information: *Journal of the National Cancer Institute*, published online Feb. 24, 2016, [DOI: 10.1093/jnci/djv436](https://doi.org/10.1093/jnci/djv436)

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