

Benefits and Potential Harms of Cancer Screening

The U.S. Preventive Services Task Force or professional societies focused on cancer care meticulously review the available scientific evidence to weigh potential risks of screening for a specific cancer type against benefits of screening for it before the cancer screening guidelines are issued. Review of the scientific evidence includes, but is not limited to, the type(s) of screening test(s) that should be used for screening for a specific cancer type, as well as which individuals should be screened and at what age. Benefits of routine cancer screening are substantial and typically outweigh potential harms from the procedure, as described below:

BENEFITS OF SCREENING



Reduced Cancer Incidence

If a screening test detects precancerous lesions, removing these lesions can reduce, or even eliminate, an individual's risk of developing the screened cancer.

Reduced Likelihood of Advanced Disease

If a screening test detects cancer at an early stage of development, it can reduce an individual's risk of being diagnosed with the screened cancer at an advanced stage.

Reduced Cancer Mortality

Diagnosis of cancer at an early stage can increase the likelihood that a patient can be successfully treated. Screening can also indicate that making behavioral changes—for example, eliminating exposure to cigarette smoke if a screening test finds early signs of lung cancer—will reduce the chances of developing cancer. Both of these possibilities increase quality of life and reduce an individual's risk of dying from the screened cancer.

POTENTIAL HARMS OF SCREENING



Adverse Events

Screening tests are medical procedures, and they carry minimal but measurable risks of side effects.

Anxiety

Screening individuals who are not at risk of disease can cause unnecessary anxiety during the waiting period for the test results.

False-positive Test Results

It is possible that some individuals who receive a positive screening test result do not have the screened cancer. A false-positive test result can result in additional unnecessary medical procedures, treatments, and anxiety.

False-negative Test Results

It is also possible that some individuals who receive a negative screening test result are not free from the screened cancer. A false-negative test result can lead to missed opportunities for early treatment and/or behavioral changes to minimize the risk of dying from cancer.

Overdiagnosis and Overtreatment

Not all precancerous lesions or cancers detected by screening will progress to cause symptoms and threaten life. Detection of indolent tumors is called overdiagnosis and can lead to overtreatment, which carries its own potential harms and costs.