Supplementary Online Content


**eFigure.** Respondent flow chart

**eMethods.** Survey

This supplementary material has been provided by the authors to give readers additional information about their work.
Respondent flow chart

Sample frame  Survey Sampling U.S. Panel
Sample frame of ~876,000 U.S. citizens

Selected sample  U.S. citizens ages 50 to 69
National sample of U.S. citizens (stratified by age, gender, education, ethnicity) were sent e-mail invitation plus reminders
(n = 1,362)

Respondents  Completed survey screener
Began screener and answered screener question(s)
(n = 1,193)

No response (n = 169)

Screened out because of:
- cancer history (n = 168)
- not being invited for screening yet (n = 16)
- Full quota (n = 551)

Respondents  Entered survey
Began survey and entered personal information
(n = 458)

Did not finish the survey (n = 141)

Eligible Respondents  U.S. citizens ages 50 to 69
Completed survey
(n = 317)
eMethods. Survey

---Explanation of overdiagnosis and overtreatment---

In the next paragraph, we are going explain the most common harms associated with cancer screening: overdiagnosis and overtreatment. Your understanding of these harms is important as you will be asked for your opinion on them afterward.

Cancer screening results in some degree of overdiagnosis, which means the detection of “pseudocancer.” Pseudocancers are screen-detected cell abnormalities that meet the pathological definition of cancer but will never progress to a cancer that will threaten your life or cause you any symptoms during your lifetime. Pathologically, these pseudocancers are hard to distinguish from real (progressive and threatening) cancers. So if you tested positive your doctor would not always know for certain whether the cell abnormality is progressive (real cancer) or not (pseudocancer). Most of the pseudocancers will be ruled out by further testing. However, no cancer screening test is 100% certain, which is why you cannot reduce the risk of being overdiagnosed with a pseudocancer to zero. Thus, some people remain overdiagnosed even after further testing. As a consequence, those who do not actually have a “real” cancer will nonetheless be treated for a “real” cancer by therapies such as chemotherapy, surgery, and radiation. This is called overtreatment. Overtreated people do not profit in any physical way from the treatment but, on the contrary, may only suffer some of the various side effects from cancer treatment.

---Start survey----
1) Imagine you are considering a cancer screening that saves 1 person per 1,000 screened people from dying from the cancer. However, this cancer screening also results in some degree of overdiagnosis and thereby in overtreatment, such as unnecessary surgery and radiation. Please indicate by ticking one of the boxes below what number of overdiagnosed people among these 1,000 you would find tolerable while still being prepared to do the screening:

<table>
<thead>
<tr>
<th>Number of Overdiagnosed People</th>
<th>Ticked</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 people</td>
<td>☐</td>
</tr>
<tr>
<td>Up to 1 person</td>
<td>☐</td>
</tr>
<tr>
<td>Up to 5 people</td>
<td>☐</td>
</tr>
<tr>
<td>Up to 10 people</td>
<td>☐</td>
</tr>
<tr>
<td>Up to 20 people</td>
<td>☐</td>
</tr>
<tr>
<td>Up to 50 people</td>
<td>☐</td>
</tr>
<tr>
<td>Up to 100 people</td>
<td>☐</td>
</tr>
</tbody>
</table>

2) Have you ever had routine cancer screening?

☐ YES

Which of the following screening tests do/did you routinely attend?

☐ Mammography
☐ Papanicolaou test (pap smear test)
☐ PSA test
☐ Sigmoidoscopy or colonoscopy
☐ others

(participants were directed to question 3)

☐ NO

(participants were directed to question 4)
3) Did your physicians tell you about the possibility of being overdiagnosed and/or overtreated if having the cancer screening test?

☐ YES

Did your physicians quantify the risk of being overdiagnosed/overtreated, that is, provide you with a number of the risk?

☐ yes

For what cancer screening test did your doctor tell you the risk of overdiagnosis/overtreatment in numbers?

☐ Mammography What was the number: ______

☐ Papanicolaou test (pap smear test) What was the number: ______

☐ PSA test What was the number: ______

☐ Sigmoidoscopy or colonoscopy What was the number: ______

☐ others ______ What was the number: ______

If you learned that one of the screening tests you are doing on a regular basis would result in about 10 overdiagnosed people per one life saved from cancer, would you continue to have that screening test?

☐ yes

☐ probably yes

☐ probably no

☐ no

(“thank you” page)

☐ no

Would you have liked to receive the estimate of the risk of being overdiagnosed/overtreated?

☐ yes

☐ no

If you learned that one of the screening tests you are doing on a regular basis would result in about 10 overdiagnosed people per one life saved from cancer, would you continue to have that screening test?

☐ yes

☐ probably yes

☐ probably no
Would you have liked to be told about the risk of overdiagnosis and overtreatment by your physician before being tested?
☐ yes
☐ no

If you learned that one of the screening tests you are doing on a regular basis would result in about 10 overdiagnosed people per one life saved from cancer, would you continue to have that screening test?
☐ yes
☐ probably yes
☐ probably no
☐ no

(“thank you” page)
So far, you haven't had any cancer screening test. Is the possibility of being overdiagnosed part of this decision?

☐ yes  
☐ probably yes  
☐ probably no  
☐ no 

("thank you" page)

☐ NO

Would you like to be told about the risk of overdiagnosis and overtreatment by your physician before being tested?

☐ yes  
☐ no 

("thank you" page)

If you learned that one of the cancer screening tests you may consider in the future would results in about 10 overdiagnosed people per one life saved from cancer, would this screening test still be an option for you?

☐ yes  
☐ probably yes  
☐ probably no  
☐ no 

("thank you" page)