significant 25% reduction in breast cancer deaths for women aged 40-49. This is a basic mathematical analysis that anyone can perform.

Despite Dr. Harris’s protest, there was clear bias in the selection of participants in the workshop as well as a clear imbalance in the analysis of the data presented in the summary report that he coauthored. Dr. Harris is concerned about an “ad hominem argument,” but we are, as individuals, accountable for our views and biases when those views influence the lives of others. Although I believe that I have argued from a purely scientific perspective, I am well aware that my own views have been considered in light of my biases as a radiologist.

In summary, Dr. Harris and the NCI should cease to believe that they are determining national health policy and should act as advisors. The NCI has urged that women and their physicians decide on the basis of the facts, yet the NCI has never provided women and physicians with all the facts, only their narrow analysis. They have ignored the clear trend in the randomized, controlled trial toward a mortality benefit, with strong evidence in favor of screening, despite the low power of the trials to provide statistically significant results. Now that the trials have provided the statistical significance that Dr. Harris and the NCI have required, it is time to correct the record and provide women and their physicians with all of the information.

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References

(5) Kopans DB: The use of mammography for screening [letter; see comment citation in Medline]. JAMA 271:982, 1994
(25) Fletcher SW, Fletcher RH: The breast is close to the heart [editorial; see comment citations in Medline]. Ann Intern Med 117:969-971, 1992

Note

'Editor's note: In a letter from Dr. Bjurstam to Dr. Kopans, which Dr. Kopans supplied to us as evidence of permission for citing unpublished data, Dr. Bjurstam says, "The results presented at the 26th National Congress on Breast Cancer were preliminary and are at present being analyzed by the Swedish Overview Group. All deaths are being reviewed by an independent end point committee. "This means that it will take some time before I have the final results with the 95% confidence intervals. "The study was ended 7 years after start by inviting the control group to screening. This means that the women who were 40-49 years old at entry were 47-56 years at the end of the trial. However, our results show that the majority of cancers (but not all) were detected while the women were in their forties."

Re: May We Agree to Disagree, or How Do We Develop Guidelines for Breast Cancer Screening in Women?

Do public health-based screening guidelines require a lesser degree of evidence than research-based guidelines? There is a fundamental fallacy in Dr. Swanson’s “public health-based breast cancer-screening guideline” that “women most likely to choose breast
conservation (those in their 40s) will have a greater probability that breast cancer will be detected at an earlier and more appropriate stage for this treatment option (1)" (2).

The reference cited by Dr. Swanson does not justify this assumption. It was based on a study of women presenting for therapy for breast cancer, and no data are provided that confirm that women whose breast cancers were detected by screening had a greater probability of receiving breast-conserving surgery than women whose breast cancers were detected in other ways. In practice, data are available from the Canadian National Breast Screening Study (Table 1). These data show that the relative proportion of women who received lumpectomy was greater in the MP (mammography plus physical examination) group than in the UC (usual care) control group. However, the number of women who received mastectomy, and thus in equivalent-sized groups the rate of mastectomy, was also greater in the MP group than in the UC group.

The explanation appears to be in part confusion about the best treatment for ductal carcinoma in situ found as a result of mammography screening but mainly the fact that screening, when it is ineffective as it is for women in this age group, does not reduce the absolute numbers of advanced breast cancers. Thus, the therapeutic decisions relating to whether or not a woman receives lumpectomy or mastectomy result in a similar rate of women receiving mastectomies. Although the numbers of women who receive lumpectomies are greater, this situation is in part spurious because some of these lumpectomies and indeed possibly some of the mastectomies would never have been necessary in the absence of mammography screening, which seems to be promoting the overdiagnosis of nonbiologically relevant cancers.

When judging the public health applicability of a recommendation to screen women aged 40-49 years with mammography, it is essential to incorporate other measures that are relevant to public health. The Canadian National Breast Screening Study (3) demonstrated the increase in health care costs that accompany mammography screening and which in practice are an unnecessary burden because of the failure to achieve breast cancer mortality reduction. This situation was exhibited by the substantially higher benign biopsy rates in the MP group than in the UC group at screen 1, by the treatment costs for the small nonbiologically relevant breast "cancers" that would not have killed women anyway, and by the increased anxiety and other costs associated with the screening process. It is extremely difficult to demonstrate any benefits of screening in this age group.

The one possible benefit is the reassurance that accompanies the information that the woman screened negative. However, for false-negatives, higher probably in this age group than in women older than age 50, there is a clear disadvantage and in practice all women under the age of 50 who are told they are screened negative are receiving false reassurance because the screen would have benefitted them not at all.

Public health-based screening guidelines require demonstrated evidence of efficacy. This is a prerequisite that was accepted by the International Union Against Cancer (UICC) project on screening for cancer (4-8). Thus, we steadfastly decline to recommend the application of screening as a public health policy in the absence of evidence of benefit. Efficacy-based research information is in practice not sufficient for public health guidelines. What is necessary is demonstrated effectiveness in a population; regrettably, this evidence is not yet available for breast screening for any age group. However, one has to apply screening in a population to derive such evidence, and it is critical that the current population-based breast-screening programs in women older than age 50 in Canada and several countries of Europe be fully monitored to ensure that they are indeed as effective as they are anticipated to be.

Public health-based screening guidelines are therefore seen in this instance, and indeed in every instance, to require at least as great a level of evidence of effectiveness as research-based guidelines. Indeed, it is unclear why a distinction should be made between them. For public health purposes, we in practice require research-derived guidelines. Anything less would be unacceptable. I submit, therefore, that by all accounts screening women under the age of 50 is not justifiable. For public health as well as for research, we should not substitute hope for evidence.

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References

(2) Swanson GM: May we agree to disagree, or how do we develop guidelines for breast cancer screening in women? J Natl Cancer Inst 86:903-905, 1994
(3) Miller AB, Baines CJ, To T, et al: Canadian National Breast Screening Study: I. Breast cancer detection and death rates among women age 40 to 49 years [published erratum

Table 1. Extent of surgery for women aged 40-49 years on entry to the Canadian National Breast Screening Study

<table>
<thead>
<tr>
<th>Cancers detected at</th>
<th>Surgery</th>
<th>MP</th>
<th>UC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen 1</td>
<td>Lumpectomy</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Mastectomy</td>
<td>60</td>
<td>36</td>
</tr>
<tr>
<td>Screens 2-5</td>
<td>Lumpectomy</td>
<td>108</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Mastectomy</td>
<td>53</td>
<td>*</td>
</tr>
<tr>
<td>All†</td>
<td>Lumpectomy</td>
<td>232</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>Mastectomy</td>
<td>183</td>
<td>157</td>
</tr>
</tbody>
</table>

*No screening by design.
†Includes all cancers ascertained in the first 7 years after allocation.


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