

# New Analyses of Data from the Prostate Cancer Screening Trials

*Prostate-specific antigen screening is imperfect, has expensive consequences, and saves relatively few lives.*

In 2009, results of the two large randomized trials of prostate cancer screening were published ([JW Gen Med Mar 18 2009](#)). In the PLCO (U.S.) trial, screening failed to lower prostate cancer–specific mortality, but the trial was criticized because many men in the control group were screened outside the trial. In the ERSPC (European) trial, the lower incidence of prostate cancer–specific mortality in the screening group reached statistical significance ( $P=0.04$ ), but 1410 men were screened and 48 were treated to prevent one death at 9 years. Now, new analyses of the data are appearing.

In a post hoc analysis, PLCO researchers stratified participants by presence or absence of comorbidities. Among men with no major comorbidities, 10-year prostate cancer–specific mortality was lower in the screening group than in the usual-care group (0.17% vs. 0.31%;  $P=0.03$ ). In contrast, among men with one or more major comorbidities, 10-year prostate cancer–specific mortality was higher in the screening group than in the usual-care group (0.27% vs. 0.19%;  $P=0.07$ ).

Another group calculated the cost-effectiveness of screening, using the ERSPC outcome (number needed to treat [NNT], 48) and U.S. costs. The overall cost to prevent one prostate cancer death would be \$5.2 million annually; this figure includes costs of screening, further diagnostic evaluation of screen-positive men, and treatment.

In another analysis, proponents of prostate-specific antigen (PSA) screening argue that the ERSPC's published NNT of 48 is misleading because, in their view, the prostate cancer–specific mortality curves will continue to diverge with longer follow-up. Extrapolating from the published 9-year ERSPC data, they calculate that, after 12 years, the NNT to prevent one death would fall to 18.

**Comment:** People likely will interpret these data in various ways, depending on their preconceptions about the value of PSA screening. What seems clear — regardless of one's preconceptions — is that PSA screening is a highly imperfect test, that screening and its downstream consequences are very expensive, and that many men must be screened and treated to save one life. The post hoc finding that screening lowered mortality among PLCO participants without comorbidities is interesting, but the absolute difference was very small. This finding parallels the fact that in the only large randomized comparison of prostatectomy versus "watchful waiting" ([JW Gen Med May 20 2005](#)), prostatectomy lowered mortality only in men younger than 65 (who would, on average, have fewer comorbidities than older men).

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