

# Lower detection of prostate cancer with PSA screening in US than in a European randomized trial

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Fewer prostate cancers were detected by prostate-specific antigen (PSA) screening in the U.S. than in a European randomized trial because of lower screening sensitivity, according to a new brief communication published online February 8 in the *Journal of the National Cancer Institute*.

To compare the PSA screening performance in a clinical trial with that in a population setting, Elisabeth M. Wever, MSc, Department of Public Health, Erasmus Medical Center, the Netherlands, and colleagues applied a microsimulation model developed for prostate cancer and screening to the European Randomized Study of Screening for Prostate Cancer (ERSPC)-Rotterdam. The model was adapted by replacing the trial's demography parameters with U.S.-specific ones and the screening protocol with the frequency of PSA tests in the population. The natural progression of prostate cancer and the sensitivity (percentage of men correctly identified as having prostate cancer of those who have preclinical prostate cancer) of a PSA test followed by a biopsy were assumed to be the same in the US as in the trial.

The prostate cancer incidence predicted by the model in the U.S. was substantially higher than the actual [prostate cancer](#) incidence. However, the actual incidence was reproduced by assuming a substantially lower PSA test sensitivity in the U.S. than in ERSPC-Rotterdam.

The authors concluded that the efficacy of PSA screening in the U.S. was lower than in ERSPC-Rotterdam because of the lower sensitivity of PSA testing followed by biopsy. The estimates of PSA test sensitivity were 0.26 in the U.S. versus 0.94 in ERSPC-Rotterdam.

In an accompanying editorial, Peter C. Albertsen, M.D., of the University of Connecticut Health Center, in Farmington, calls the study's findings remarkable and instructive. If the U.S. ever wanted to match the trial's results, he writes, the intensity of [PSA screening](#) and [prostate biopsy](#) would need to increase by well more than 50% from the values recorded in 1992, a time when incidence rates were at their peak.

Also, the rates of radical prostatectomy and radiation therapy among men aged 55-69 years would need to increase by 50% to achieve the mortality reduction noted in the ERSPC trial. "The consequences of such large increases in surgery and radiation are sobering," he writes.

**More information:** [jnci.oxfordjournals.org](http://jnci.oxfordjournals.org)

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