

PSA Toolkit: Supplement #2 to PSA Toolkit Summary of Evidence document (March, 2016)

This document provides an update from the results of longer-term follow-up for the European Randomized Screening Trial of Prostate Cancer (ERSPC), published in December 2014. It is the second supplement to be produced to the PSA Toolkit: PSA Screening and Testing for Prostate Cancer, published [online](#) in July 2009.

The PSA Toolkit: PSA Screening and Testing for Prostate Cancer (2009) was published and distributed to provide background information regarding PSA screening and PSA testing (opportunistic screening, case-finding or ad-hoc testing), and included the first published results of two major trials on prostate cancer screening. The work of the expert panel concluded with the following summary statement:

"The expert panel's synthesis of the evidence is that expansion of PSA screening practices beyond the current ad hoc situation is not justified, and indeed may produce net harm."

The additional follow-up data published in 2012 for the U.S. National Cancer Institute's Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial and at the end of 2014 for the ERSPC trial, show stable mortality outcome results for the two trials over longer periods of time. In the most recent publication of the ERSPC trial, the mortality outcome data were analyzed by truncating the follow-up period to the year 2010 at 9 years, 11 years and 13 years, producing a new set of mortality outcome data for each of those time periods. Thus the numbers in this Supplement #2 table for the ERSPC will be different from earlier PSA Toolkit documents.

At 11 and 13 years of follow-up, a sustained 21% reduction in prostate cancer mortality was reported in the ERSPC trial. No mortality reduction was found in the PLCO trial. Both trials showed no difference in overall mortality between screening and control groups. In the most recent ERSPC publication, over diagnosis was identified as a key area needing research on how to reduce it, as it accounted for approximately 40% of cases detected by screening.

The summary conclusion of the Expert Panel remains relevant as of March 2016. Continued monitoring and reviews of trial evidence will take place as it becomes available.

Further information about the latest publications described in this supplement are available through the Canadian Task Force on Preventive Health Care; these trials were reviewed as part of their updated prostate cancer screening guidelines in 2014. For more information, visit <http://canadiantaskforce.ca/ctfpch-guidelines/2014-prostate-cancer/clinician-summary/>

Trial Results

The most recent mortality results from both trials, published in 2012 for the PLCO trial and in 2014 for the ERSPC trial are shown in the following table.

Table: Summary of results of the ERSPC⁽¹⁾ and PLCO⁽²⁾ randomized trials.

| Feature | European Randomized Screening Trials of Prostate Cancer (ERSPC) ⁽¹⁾ | Prostate, Lung, Colorectal and Ovarian Screening Trial (PLCO) ^(2,3) |
|-----------------------|---|---|
| Age group reported on | 55 - 69 years | 55 - 74 years |
| | Years 1-9 Screening arm: 193 Control: 278 *Rate ratio: 0.85 (95% CI = 0.70-1.03) | After a follow-up period of 10 years: Screening arm: 50 Control: 44 *Rate ratio: 1.11 (95% CI = 0.83-1.50) |
| | Years 1-11 Screening arm: 265 Control: 415 Rate ratio: 0.78 (95% CI = 0.66-0.91) | After a follow-up period of 13 years: Screening arm: 158 Control: 145 *Rate ratio: 1.09 (95% CI = 0.87-1.36) |
| | Years 1-13 Screening arm: 355 Control: 545 Rate ratio: 0.79 (95% CI = 0.69-0.91) | |

* Rate ratio was non-statistically significant

References

1. Schröder FH, Hugosson J, Roobol MJ, et al. Screening and prostate cancer mortality: results of the European Randomised Study of Screening for Prostate Cancer (ERSPC) at 13 years of follow-up. *Lancet*. 2014;384:2027-35.
2. Andriole GL, Crawford ED, Grubb RL 3rd, et al. Prostate Cancer Screening in the Randomized Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial: Mortality Results after 13 Years of Follow-up. *JNCI*. 2012;104:125-32.