

The Challenge of Cancer Screening Part One – Prostate Cancer and Lung Cancer Screening



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The cancer care continuum includes a critical public health issue – cancer screening. Screening in the US is particularly important for the major cancers – breast, prostate, lung and colorectal, as well as certain gyn malignancies, such as cervical cancer.

Cancer Center leaders, and the physicians who treat cancer patients, want to do the best for individuals who may have the disease, and for those whom they suspect may have cancer, to find the cancer early when it is most treatable. The challenge comes when questions are raised about whether screening may lead to outcomes that cause more harm than good. And lately, the standards for screening have been in flux.

While medical organizations can support certain screening procedures, CMS and other payors determine whether or not they will pay for the screening procedures. Often, payors base their reimbursement decisions on recommendations from the U.S. Preventive Services Task Force (USPSTF). This article examines the current state of screening procedures for Lung Cancer and Prostate Cancer.

Lung Cancer

For years, there were no guidelines for lung cancer screening. Practitioners asked, “Should we do chest x-rays for all smokers? What about CT’s? And what characteristics define a high risk smoker?”

Since April 2011, when results were published detailing findings from the seminal study ***The National Lung Screening Trial***¹, major advocacy, public health, and cancer center organizations (e.g. the American Lung Association, NCCN, ACS, ASCO, the American College of Chest Physicians and the American Thoracic Society) have supported the following lung cancer screening recommendations²:

- Chest X-rays are not an appropriate screening tool for lung cancer early detection;
- Low Dose CT scans should be offered for those who are at high risk for lung cancer. These individuals are identified as follows:
 - Current or former smokers (aged 55-74 years), with a smoking history of at least 30 pack-years; and/or those who may have quit smoking in the previous 15 years; and among these two groups, those with no history of lung cancer.
 - Smokers younger than 55 and older than 75 and/or those with significant comorbidities; and,
 - Individuals aged 50+ with a 20-pack year or more history of smoking, and one additional risk factor.

The American College of Chest Physicians and ASCO add, “but only in settings that can deliver the comprehensive care provided to National Lung Screening Trial participants. Some caveats encourage screening only in healthcare settings where comprehensive care can be provided to those whom screening reveals do indeed have lung cancer.”⁴

The U.S. Preventive Services Task Force (USPSTF) concludes that evidence is insufficient to recommend for or against screening asymptomatic persons for lung cancer with either low dose computerized tomography (LDCT), chest x-ray (CXR), sputum cytology, or a combination of these tests.

In May 2011, the Lung Cancer Alliance Legacy and Prevention Cancer Foundation sent a letter to Secretary of HHS Kathleen Sebelius decrying the delay in USPSTF (the United States Preventive Services Task Force) reviewing CT Screening for lung cancer. Despite this, the USPSTF is not expected to issue a statement on this matter until 2014

Prostate Cancer

Historically, prostate cancer has been regarded as a prime example of early detection being supported for all men. PSA (Prostate Specific Antigen) testing and DRE (Digital Rectal Exams) were included in annual physicals for all men aged 50+, and for those at high risk at age 40 or 45.

In March 2012 however, the New England Journal of Medicine published results from an 11-year follow-up study. Study investigators published this statement, “Analyses after 2 additional years of follow-up consolidated our previous finding that PSA-based screening significantly reduced mortality from prostate cancer, but did not affect all-cause mortality.”⁵

Based on NEJM published work, and other studies, physicians and cancer care leaders have been discussing recommendations to test up to only age 75, or to not screen men at all for prostate cancer. However, even those recommendations vary based on the reporting organization.

The American Urological Society states:

The AUA has recently revised its guidelines for PSA screening (April 2009) and now recommends that baseline PSA screening be offered to asymptomatic men 40 years of age or older who wish to be screened, and who have a life expectancy of more than 10 years.

- For men with average risk of prostate cancer, early detection is recommended to begin at age 50;
- Men at higher lifetime risk (i.e. those with positive family history in a first-degree relative, African American race, etc.) begin sooner.
- Prostate cancer screening should end at age 74 years⁶.

The American Cancer Society states

“Men should make an informed decision with their doctor about whether to be tested for prostate cancer. Research has not yet proven the potential benefits of testing outweigh the harms of testing and treatment. The ACS believes that men should not be tested without learning about what we know and don’t know about the risks and possible benefits of testing and treatment.

Starting at age 50, men should talk to a doctor about the pros and cons of testing so they can decide if testing is the right choice for them. If they are African American or have a father or brother who had prostate cancer before age 65, men should have this talk with a doctor starting at age 45. If men decide to be tested, they should have the PSA blood test with or without a rectal exam. How often they are tested will depend on their PSA level”.⁷

In 2008, the USPSTF stated that the current evidence is insufficient to assess the balance of benefits and harms of prostate cancer screening in men younger than age 75. Therefore, the USPSTF recommends against screening for prostate cancer in men age 75+. As late as May 24, 2012 the USPSTF released a new report of PSA as a screening tool, stating:

- The U.S. Preventive Services Task Force (USPSTF) **recommends against** prostate-specific antigen (PSA)-based screening for prostate cancer

Rationale - Although the precise, long-term effect of PSA screening on prostate cancer-specific mortality remains uncertain, existing studies adequately demonstrate that the reduction in prostate cancer mortality after 10 to 14 years is, at most, very small, even for men in what seems to be the optimal age range of 55 to 69 years. There is no apparent reduction in all-cause mortality. In contrast, the harms associated with the diagnosis and treatment of screen-detected cancer are common, occur early, often persist, and include a small but real risk for premature death. Many more men in a screened population will experience the harms of screening and treatment of screen-detected disease than will experience the benefit. The inevitability of overdiagnosis and overtreatment of prostate cancer as a result of screening means that many men will experience the adverse effects of diagnosis and treatment of a disease that would have remained asymptomatic throughout their lives. Assessing the balance of benefits and harms requires weighing a moderate to high probability of early and persistent harm from treatment against the very low probability of preventing a death from prostate cancer in the long term.

The USPSTF concludes that there is moderate certainty ***that the benefits of PSA-based screening for prostate cancer do not outweigh the harms.***⁸

As expected, this statement generated a storm of criticism from professional organizations. The American Urological Society is “outraged” over the recommendation stating “It is inappropriate and irresponsible to issue a blanket statement against PSA testing, particularly for at-risk populations such as African-American men. It is ill researched and ill-conceived.”⁹

What the outcome of the “screening efficacy wars” will be, and what effect they will have on cancer programs, is yet to be determined. The Oncology Group suggests program leaders might survey physicians as to where they stand on these controversial issues and what their practice is currently and if they plan on revising their practice. This local survey could also form the basis for a Quality Study (Standard 4.7) and/or a Quality Improvement (Standard 4.8) as part of the Program’s adherence to ACoS’ Cancer Program Standards (2012). For lung cancer, use the guidelines for screening as approved by most of the major professional organizations as a quality indicator for such screening. Many centers are postponing further large scale prostate cancer screenings until the evidence is conclusive.

Discussion and controversy about these screening issues are clearly not over. Stay tuned.

- 1 The National Lung Screening Trial Research Team (2011). Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening. New England Journal of Medicine 365 (5) 395-409
- 2 National Comprehensive Cancer Network guidelines for Lung Cancer Screening. http://www.nccn.org/professionals/physician_gls/f_guidelines.asp. Accessed May 29, 2012
- 3 US Preventive Health Services Task Force Lung Cancer Screening Recommendation Statement. <http://www.uspreventiveservicestaskforce.org/3rduspstf/lungcancer/lungcanrs.htm>. Accessed May 29, 2012
- 4 ACCP and ASCO Release Joint Systematic Review and Clinical Practice Guidelines on the Role of CT Screening for Lung Cancer. <http://www.chestnet.org/accp/article/guideline-lung-cancer-ct-screen>. Accessed May 29, 2012
- 5 Fritz H. Schröder, M.D., et. Al, (2012) Prostate-Cancer Mortality at 11 years of Follow-Up. New England Journal of Medicine 366 981-990.
- 6 AUA Prostate Specific Antigen Best Practice Statement 2009. <http://www.auanet.org/content/media/psa09.pdf>. Accessed May 29, 2012
- 7 American Cancer Society Screening Guidelines for Prostate Cancer. <http://www.cancer.org/Healthy/FindCancerEarly/CancerScreeningGuidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer>. accessed May 21, 2012
- 8 US Preventive Health Services Task Force Prostate Cancer Screening Recommendation Statement <http://www.uspreventiveservicestaskforce.org/prostatecancerscreening/prostatefinalrs.htm>. Accessed May 29, 2012
- 9 Cummins, J. (2012) Urologists outraged over PSA Challenge . Health Leaders Media. Retrieved May 29, 2012 from <http://www.healthleadersmedia.com/content/PHY-280505/Urologists-Outraged-Over-PSA-Test-Challenge>