

OREGON PUBLIC HEALTH DIVISION • OREGON HEALTH AUTHORITY

PROSTATE CANCER: EMBRACING THE UNCERTAINTY

*“Uncertainty is a sign of humility, and humility is just the ability or the willingness to learn”.*

— Charlie Sheen\*

PROSTATE CANCER is the most common invasive cancer and the second leading cause of cancer deaths among Oregon men. In 2010, 2,623 Oregon men were diagnosed with, and 397 men died of, prostate cancer. This *CD Summary* presents data on prostate cancer in Oregon, and discusses what we know and what we don't know about screening for and treating prostate cancer.

**WHAT WE KNOW**

Declining Incidence and Mortality.

From 2001 through 2010, age-adjusted prostate cancer incidence declined in Oregon from 173.4 per 100,000 men to 120.7. Similarly, in the U.S., the rate declined from 173.2 to 125.8 (Figure 1).<sup>†</sup> Age-adjusted mortality rates also declined between 2001 and 2010 by 27% in Oregon (30.2 per 100,000 men to 22.0) and by 26% in the U.S. (29.4 to 21.9).<sup>†</sup>

Continued Disparities. In Oregon from 2006 through 2010, the age-adjusted incidence in African American men was 27% higher than in white men (168.4 per 100,000 men vs.

132.9) (Figure 2). Nationally, the age-adjusted incidence in African American men was 62% higher than in white men (219.0 per 100,000 vs. 135.4).<sup>†</sup>

In Oregon, the age-adjusted mortality rate was about 37% higher for African American men than white men (33.5 vs. 24.4). Similarly, the national age-adjusted prostate cancer mortality rate for African American men was more than twice that of white men (50.4 per 100,000 vs. 21.3).<sup>†</sup>

Unchanged age and stage of diagnosis.

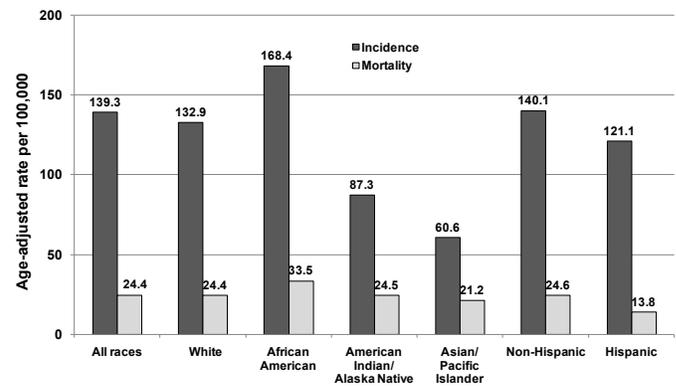
From 2006 through 2010, the median age at diagnosis of prostate cancer in Oregon was 66.5 years, slightly lower than that from 2001 through 2005 (67.5 years). During 2010, 73% of prostate cancers were diagnosed in the localized stage, unchanged from a decade earlier (74% in 1999). Distant metastases at the time of diagnosis were also unchanged (4% in 2010 and 1999).

**MAKE SOME NOISE FOR EQUIPOISE**

When all is said and done, we don't know why prostate cancer incidence and mortality are dropping overall or why African American men continue to be disproportionately affected. You may remember that, when we last visited this topic about a decade ago,<sup>‡</sup> we promised you results from a couple of large-scale clinical trials that would help settle some of this. So what happened? Well, those two large clinical trials came to different conclusions about the mortality benefit of screening for prostate cancer using prostate specific antigen (PSA) with or without digital rectal examination (DRE).

The mortality benefit of PSA-based screening was assessed by the ERSPC

Figure 2. Prostate cancer incidence and mortality, by race and ethnicity, Oregon, 2006–2010.



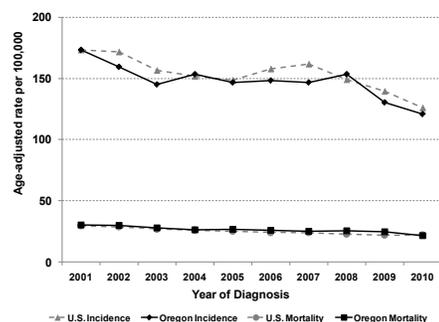
Source: Oregon State Cancer Registry

trial (in Europe) and PLCO trial (in the U.S.).<sup>1,2</sup> The ERSPC trial showed an absolute reduction in deaths due to prostate cancer in men between 55 and 69 years of age screened with PSA<sup>1</sup> (1 fewer death per 1,000 screened at 11 years follow-up). In the PLCO trial, there was no mortality benefit at 13 years follow-up.<sup>2</sup> Neither study showed any difference in all-cause mortality between those who were systematically screened for prostate cancer and those who weren't. Both the ERSPC and PLCO trials included mostly white men, so the results from these studies may not be as applicable to men who aren't white.

The uncertainty about the mortality benefit from PSA-based screening is particularly important when you consider the possible clinically significant harms associated with prostate cancer screening and treatment, including infections and urine retention resulting from biopsies, over-diagnosis, over-treatment, and downstream harms and costs associated with over-treatment.<sup>3</sup> False-positive results also lead to anxiety.

Another consideration is the data from treatment trials for localized prostate cancer. One recent study showed that radical prostatectomy decreased overall and prostate cancer mortality at 12–15 years follow-up, primarily for men <65 years old diagnosed clinically (rather than with PSA).<sup>4</sup> Another study showed that radical prostatectomy did

Figure 1. Prostate cancer incidence and mortality rates, U.S and Oregon, 2001–2010<sup>†</sup>



\* seriously

<sup>†</sup><http://wonder.cdc.gov> See “cancer statistics” for incidence and “compressed mortality” for death data. All age-adjusted data in this issue use the year 2000 reference population.

<sup>‡</sup> See the [CD Summary 2002:51:3](#)



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not reduce overall or prostate cancer mortality after 10–12 years of follow-up for men diagnosed when PSA was more widely used.<sup>5</sup> These results are particularly relevant given that nearly 90% of men with screen-detected cancer receive treatment aimed at a cure (such as prostatectomy and radiotherapy) rather than observation or active surveillance.<sup>6</sup>

### SHARED DECISION-MAKING

You might think this uncertainty would lead to conflict, but it's been a unifying force. Without definitive evidence to recommend a particular prostate cancer screening approach population-wide, major organizations offering PSA screening recommendations have embraced a shared decision-making approach between clinicians and patients, which includes a discussion of advantages, disadvantages, and uncertainties about PSA screening, and should consider patients' preferences.<sup>7</sup> Variations are still evident in the strength of support for PSA screening and the recommended age for beginning the shared decision-making process:

- USPSTF and CDC (2012): Recommend against PSA-based screening for prostate cancer, including for higher-risk groups, given that the best results show a reduction of 1 prostate cancer death per 1,000 screened; indicate that shared decision-making is essential for clinicians who offer or patients who request PSA screening.
- American Cancer Society (2010): Shared decision-making starting at age 50 years for men at average risk with at least 10 years life expectancy; age 45 years for higher risk groups (e.g. Afri-

can Americans, family history).

- American Urological Association (2013): Shared decision-making at age 55–69 years for average risk with 10 years life expectancy; individualized for high risk <55 years of age; no PSA screening ≥70 years of age.
- American College of Preventive Medicine (2008): Insufficient evidence to recommend routine PSA screening; shared decision-making for any patient receiving PSA screening.
- American College of Physicians (2013): Shared decision-making at age 50–69 years for average risk with 10 years life expectancy; age 45 years for higher risk groups; no PSA screening ≥70 years or average risk <50 years of age.

Despite these recommendations, a recent study indicated that 64% of men in the U.S. aged 40–75 years in 2010 reported having had no discussion with their physicians about the advantages, disadvantages, or uncertainties about prostate cancer screening with PSA.<sup>7</sup> Lack of shared decision-making was particularly prevalent among men who had never been screened for prostate cancer with PSA, with 88% of non-screened men reporting no shared decision-making, compared to 39% of men who had been screened. Also notable was the finding that patients who were *partially* informed about advantages, disadvantages, and scientific uncertainties of PSA screening had higher rates of screening using PSA testing and received more PSA tests over time than those who were *fully* informed.

So full information is key, but time and complexity are obstacles when it comes to making sure patients are fully informed regarding PSA screening.

Decision guides like those in the Resources section below may help guide systematic discussions with patients as we do our best to navigate the uncertainty that currently exists for PSA screening.

### RESOURCES

- Decision Guides for PSA Screening: American Cancer Society: [www.cancer.org/prostatemd](http://www.cancer.org/prostatemd)
- Foundation for Informed Decision Making: [www.healthdialog.com/UtilitySearch?si=hdindex&val=prostate%20specific%20antigen](http://www.healthdialog.com/UtilitySearch?si=hdindex&val=prostate%20specific%20antigen)
- Mayo Clinic: [www.mayoclinic.com/health/prostate-cancer/HQ01273](http://www.mayoclinic.com/health/prostate-cancer/HQ01273)

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