

# Prostate Cancer: Can We Reduce Deaths and Preserve Quality of Life?

*AT-A-GLANCE*

*1998*



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*“It is important that we move toward the development of health messages that reflect the best medical knowledge available to date on prostate cancer to meet the information needs of primary care clinicians and of the public.”*

David Satcher, MD, PhD  
Director, Centers for Disease Control and Prevention

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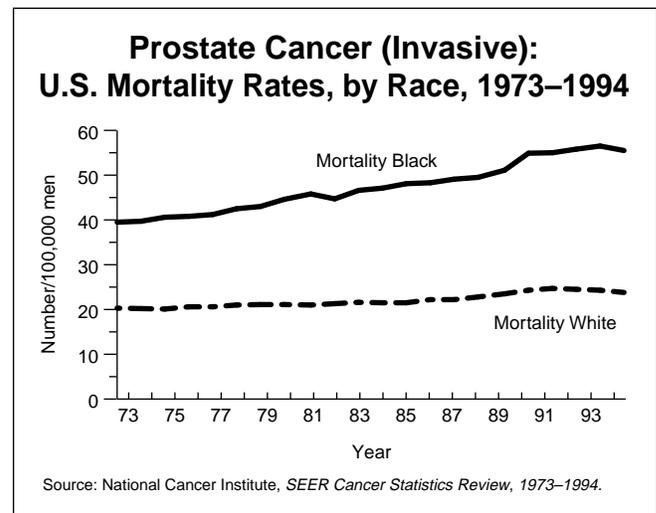
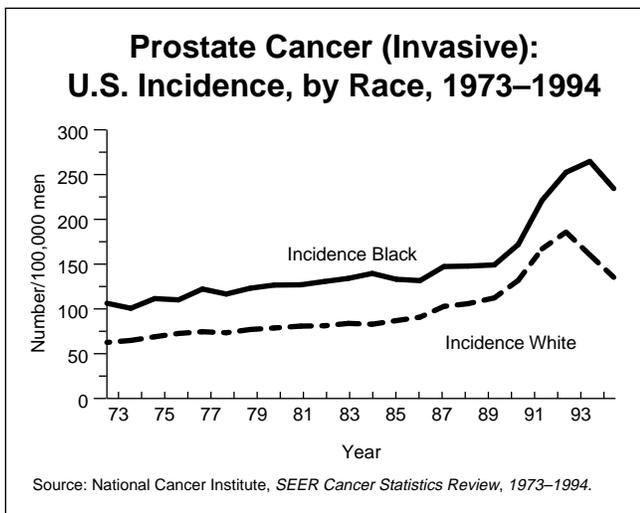
**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
Centers for Disease Control and Prevention



## Prostate Cancer

Prostate cancer is the most commonly diagnosed form of nondermatologic cancer among men in the United States and is second only to lung cancer as a cause of cancer-related death. The American Cancer Society (ACS) estimates that 184,000 new cases of prostate cancer will be diagnosed and that approximately 39,200 men will die of the disease in 1998. Prostate cancer occurs at an age when other medical conditions, such as heart disease and stroke, may contribute significantly to the cause of death. Thus, the number of men who will die with prostate cancer rather than of it is unknown.

From 1973 to 1992, the incidence of prostate cancer in the United States increased from 64 to 190 per 100,000 people, and the death rate rose by nearly 23%. More frequent use of new diagnostic methods such as blood testing may have contributed to this increase in the number of diagnosed cases. After the 1992 peak, the incidence of prostate cancer declined to 144 per 100,000 people in 1994.



## Early Detection

Preventable risk factors for prostate cancer are unknown, and effective measures to prevent this disease do not currently exist. Although screening and early detection have been proposed as methods to reduce the risk of dying of prostate cancer, health professionals have not come to a consensus on early detection guidelines. To date, the scientific evidence has been insufficient to determine if screening for prostate cancer reduces deaths or if treatment of early disease is more effective than no treatment in prolonging a patient's life. Currently, health practitioners cannot accurately determine which cancers will progress to become clinically significant and which will not. Thus, widespread screening and testing for early detection of prostate cancer are not scientifically justified at this time.

Professional medical organizations are divided on the issue of screening for prostate cancer. The U.S. Preventive Services Task Force (USPSTF) recommends against routine screening, and the Centers for Disease Control and Prevention (CDC) supports the USPSTF recommendations. The ACS and the American Urological Association (AUA) recommend an annual digital rectal examination and prostate-specific antigen measurement beginning at age 50 years. They also recommend that screening start at a younger age for African American men and for men with a family history of prostate cancer. The AUA suggests that these high-risk groups begin being tested at age 40 years.

Two methods for detecting prostate cancer are currently available to clinicians:

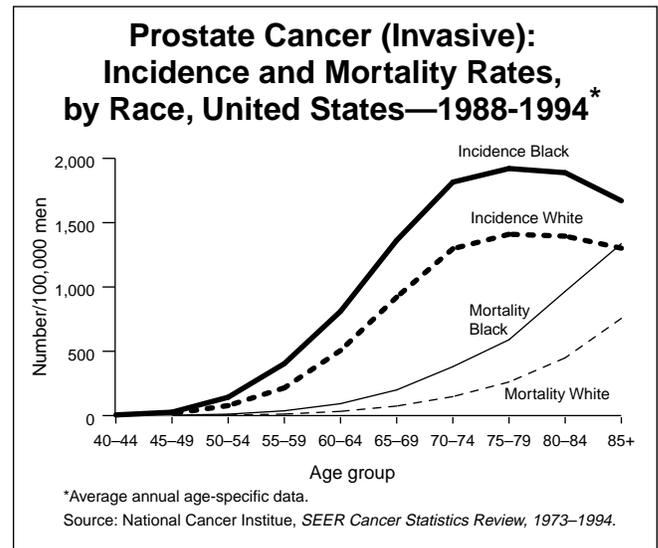
**Digital rectal examination (DRE)** has been used for years as a screening test for prostate cancer. However, its ability to detect prostate cancer when it is present is limited. Small tumors often form in portions of the prostate that cannot be reached on a DRE. Clinicians may also have difficulty distinguishing between benign abnormalities and prostate cancer, and the interpretation and results of the examination may vary with the experience of the examiner.

The **prostate-specific antigen (PSA) measurement** is a blood test that is popular with many clinicians, but medical consensus on its use and interpretation has not been reached. PSA is an enzyme measured in the

blood that rises naturally as men age. It also rises in the presence of prostate abnormalities. Thus, it is difficult to differentiate between prostate cancer, benign growth of the prostate—a condition referred to as benign prostatic hypertrophy (BPH)—and other conditions of the prostate, such as prostatitis. About 50% of men with BPH have elevated PSA levels and may receive additional diagnostic tests for cancer, such as a biopsy or transrectal ultrasound. Many of the men who receive these additional diagnostic tests are not diagnosed with prostate cancer. PSA also fails to detect some prostate cancers—about 20% of patients with biopsy-proven prostate cancer have PSA levels that are within normal range.

## Who Is at Risk?

Prostate cancer is most common among men aged 65 years and older. About 80% of all clinically diagnosed cases of prostate cancer are among men in this age group. At all ages, African American men tend to be diagnosed with the disease at later stages and to die of prostate cancer more often than white men. The incidence of this disease among African American men is among the highest in the world. From 1973 to 1992, the rate of death from prostate cancer among African Americans increased by 41%. The reasons for the greater incidence and rate of death among African American men are unknown. However, studies have shown that survival among African American men is similar to that among white men who are treated for the same grade and stage of the disease.



## Treatment Options

Decisions regarding appropriate treatment options for men with prostate cancer are based on the stage of the cancer at the time of diagnosis. Several treatment alternatives are available to patients with early stage cancer that has not spread beyond the prostate. These include the following:

**Radical prostatectomy**, or complete surgical removal of the prostate, is frequently used for patients younger than 70 years old who are otherwise in good health. Physicians rarely suggest radical prostatectomy if cancer has spread to pelvic lymph nodes or a distant site. Complications of radical prostatectomy may be

short- or long-term; these complications can include impotence and urinary incontinence. The risk for these complications increases with age and also depends on the amount of damage to nerve and blood supplies that occurs during the surgical procedure. Between 5% and 19% of men become incontinent, and from 24% to 62% may become sexually impotent. Most men who undergo a radical prostatectomy experience at least a partial decrease or decline in potency. Currently, data from randomized clinical trials are not available to provide definitive evidence that this surgical procedure decreases mortality or prolongs life.

**Radiation therapy**, or treatment of the tumor site with low levels of radiation, is used for cancer that is confined to the prostate. In addition, it is sometimes used to treat prostate cancer that has spread to bone or surrounding tissue. Some side effects of radiation therapy, which can include acute inflammation of the bladder, rectum, and intestines, are generally reversible. However, chronic inflammation can result in strictures that require surgery in up to 2% of men treated with radiation therapy. Following radiation therapy, from 25% to 44% of men experience some degree of sexual impotence and from 0.5% to 7% of men become incontinent.

Men with prostate cancer may also choose to have no treatment initially. This option is referred to as **watchful waiting**. When this option is chosen, the tumor is evaluated periodically for changes that suggest rapid growth. Recent studies have found that watchful waiting may be an acceptable management alternative for some men, particularly for older men with small low-grade tumors that are unlikely to spread.

Patients with cancer that has spread beyond the prostate gland may receive radiation and hormonal

therapies to inhibit further progression of the cancer, but most metastatic tumors eventually become resistant to hormonal therapy. Some patients with advanced metastatic disease may be considered for participation in clinical trials of experimental therapies.

Because of limitations in current medical technology, the stage of prostate cancer at diagnosis is difficult to determine. As a result, about 50% of men thought to have early stage cancer have more extensive disease. Patient outcomes and the quality of life after treatment are influenced by the patient's age, coexisting medical conditions, and the aggressiveness of the tumor.

Physicians have become increasingly aware of the psychosocial aspects of prostate cancer and its treatment. Treatment has a direct and immediate effect on the patient and his partner. Many community education and support programs are available to help men and their partners make informed decisions that will suit their needs, desires, and lifestyles. Health professionals are realizing that the question is not merely how a life can be saved, but also how quality of life can be preserved.

## CDC's Partnerships With States

Fiscal year 1998 funding for CDC prostate cancer initiatives is \$3.9 million. In 1993, Congress authorized CDC to work with existing cancer control efforts in state health departments to develop state-based demonstration projects for prostate cancer. The funded demonstration projects—in central Harlem in New York City and in rural northwest Louisiana—have obtained information on knowledge, attitudes, and practices of men and their physicians that is crucial for designing early detection programs. Both projects have focused on the population at the highest risk—African American men.

Two other projects are ongoing in Massachusetts and Missouri to further refine and validate methods and instruments for assessing knowledge, attitudes, beliefs, and practices related to prostate cancer screening.

In the absence of scientific consensus on the effectiveness of prostate cancer screening in reducing deaths, state public health agencies face a significant challenge in determining how best to balance the public's need for and interest in prostate cancer programs with useful prostate cancer health communication messages and activities. In October 1996, CDC cosponsored the State Issues Workshop on Prostate Cancer, at which state and territorial chronic disease directors addressed the complex issues related to prostate cancer control. During the workshop, participants shared experiences and identified roles and strategies for public health agencies and determined their capacity-building needs. In response to the challenges identified at the workshop, CDC established a multidisciplinary work group that will use health communications strategies and methods to craft health messages for men and their families about prostate cancer screening and early detection.

## Prevention Research Activities

Through its Prevention Research Centers program, CDC currently supports prostate cancer research at three centers, located at the University of California at Berkeley, the University of Alabama at Birmingham, and St. Louis University. These research projects are designed to assess the relationship between prostate

cancer and coexisting health conditions and to determine how these conditions may affect the risk of death among men diagnosed with prostate cancer. An important component of these projects is to determine how many men die *of* prostate cancer and how many die *with* the disease.

## Building the Science Base

In 1995, CDC held an International Conference on Prostate Cancer Screening, Early Detection, and Control. The conference provided a forum for prostate cancer experts to review current information about early detection and disease management. A broad range of health professionals and specialists from the fields of urology, internal medicine, oncology, radiology, family medicine, health administration, pathology, economics, biostatistics, and epidemiology participated in the conference. Although conference participants disagreed on such issues as the cost-effectiveness of screening and early detection and the efficacy of treatments, several consistent themes emerged:

- Prostate cancer is a major cause of illness and death among U.S. men.
- Medical tests can detect prostate cancer at early stages, but the effectiveness of screening and early detection in improving outcomes is still unproven.
- Men who are considering screening should be fully informed of the potential risks, benefits, and costs of being screened, of not being screened, and of possible diagnostic and treatment procedures.
- Men diagnosed with prostate cancer should be fully informed of the potential risks, benefits, and costs of all treatment and management options.

- Support and survivor groups can play important roles in assisting prostate cancer patients before and after treatment decisions.
- Special efforts should be made to increase African American men's participation in cancer-related research and to improve their knowledge and understanding of the disease.
- The definitions and terminology used in research and in counseling patients need to be standardized.

The most appropriate and scientifically rigorous way to answer the controversial questions related to early detection and treatment of prostate cancer is through randomized controlled trials (RCTs). The National Cancer Institute has already begun the Prostate, Lung, Colorectal, and Ovarian Cancer (PLCO) Screening Trial, which has been designed, in part, to determine whether screening for prostate cancer actually reduces deaths. CDC is funding efforts at the Henry Ford Health System to recruit older African American men to the PLCO trial. The Department of Veterans Affairs is undertaking the Prostate Cancer Intervention Versus Observation Trial, an RCT designed to determine whether radical prostatectomy or watchful waiting is preferable for managing prostate cancer in its early stages. In Europe, RCTs have been initiated to determine whether treatment of early, localized prostate cancer extends a man's symptom-free lifetime.

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