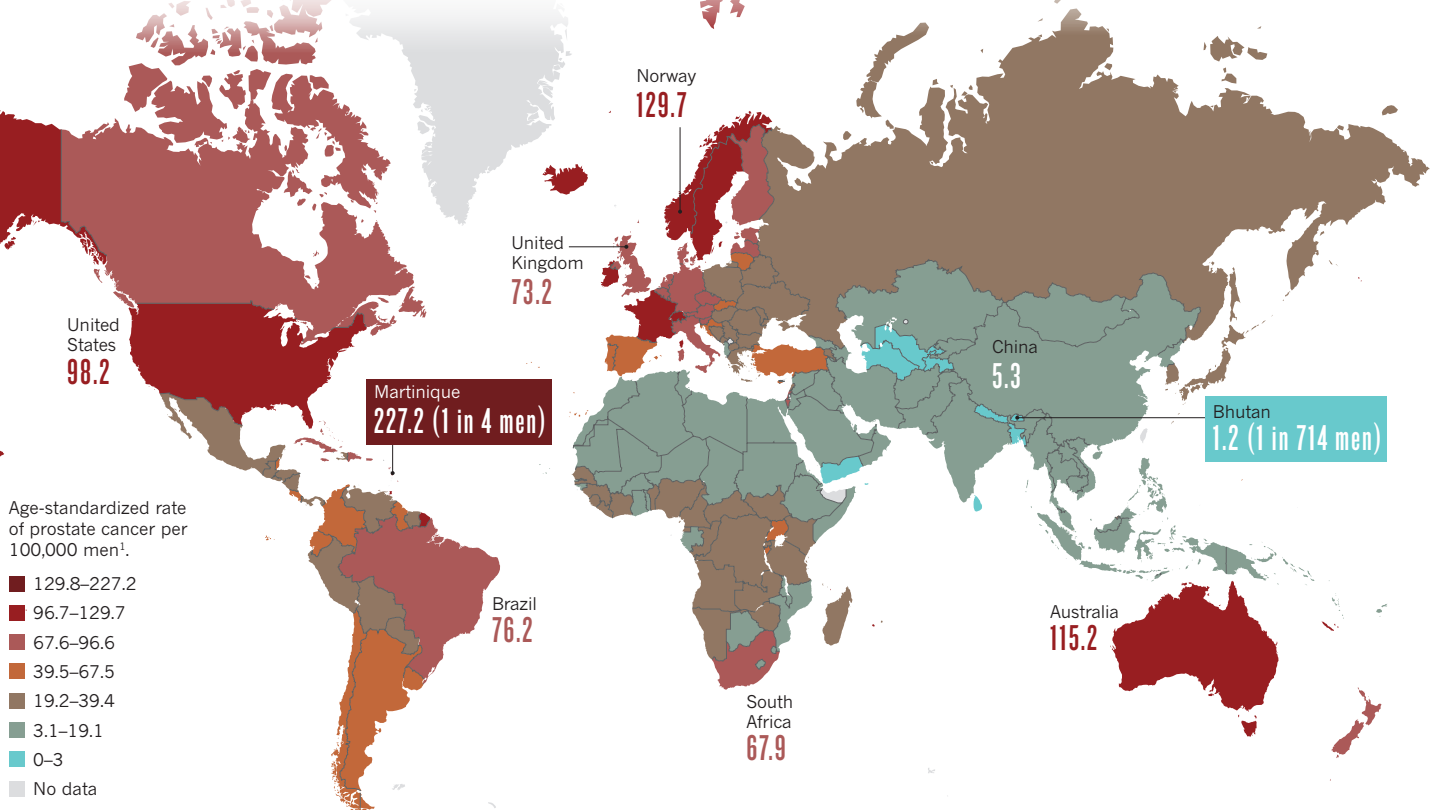


SMALL ORGAN, BIG REACH

Prostate cancer is one of the most common cancers in men — most will develop the disease if they live long enough. But it is not always deadly, and the number of cases often depends on how hard doctors look for it. By **Richard Hodson**, infographic by **Mohamed Ashour**.

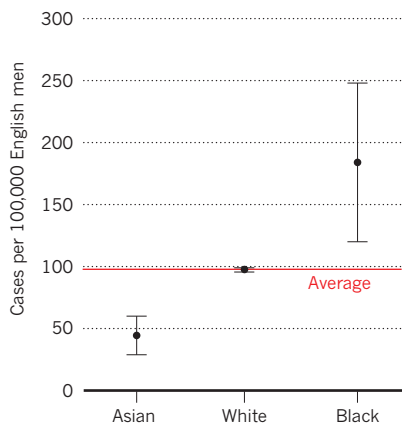
GLOBAL INFLUENCE

The rate of prostate-cancer diagnosis varies more than 25-fold around the world. The incidence rate in a country is influenced by trends in diagnostic testing, which vary from place to place, as well as by the age and ethnic mix of a population.



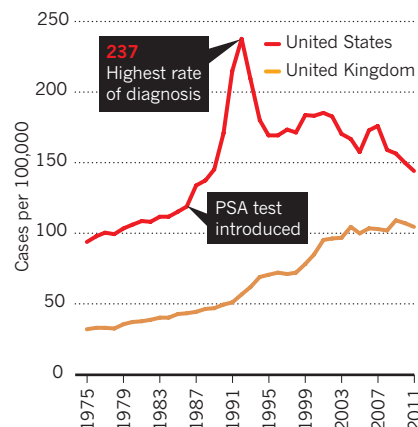
ETHNICITY EFFECTS

On the Caribbean island of Martinique, men have a 26% chance of being diagnosed with prostate cancer by age 74 — the highest in the world. But in Bhutan, the risk is just 0.14%. Ethnicity may play a part. English black men have much higher rates of the disease than Asian men².



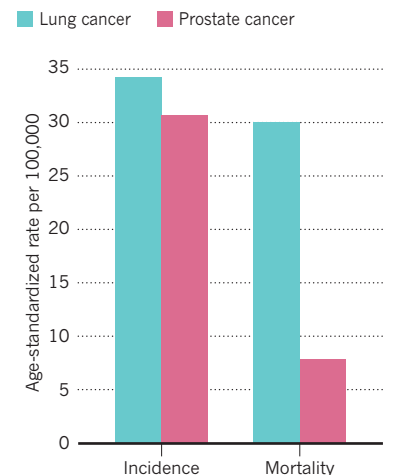
LOOKING FOR TROUBLE

The rate of prostate-cancer diagnosis in the United States spiked after the prostate-specific antigen (PSA) test was introduced in 1986 (ref. 3). Testing men without symptoms is no longer recommended. In places where the test is used less, such as the United Kingdom, rates have increased only gradually⁴.



HOW DEADLY?

Prostate cancer is the second most common cancer in men worldwide, just behind lung cancer. But for every 30 lives lost to lung cancer, just 8 men will succumb to prostate cancer¹.



80s

For British men in their eighties, rates of prostate cancer fall. This may be a reflection of lower rates of PSA testing in this age group.

A MATTER OF TIME

Age is the greatest risk factor for prostate cancer. Most (97%) prostate cancers occur in men over 50. As they get older, men are more likely to develop prostate cancer⁵.



MAN ON THE INSIDE

The prostate gland is a male organ involved in sexual function. Its size ranges from that of a walnut to that of a small apple, and can become enlarged as a result of cancer, inflammation or benign prostatic hyperplasia.

B. VAINWRIGHT, CUSTOM MEDICAL STOCK PHOTO/SPL

Sitting at the base of the bladder, the prostate surrounds the urethra that carries urine and semen from the body.

Bladder

Prostate

Just 8%, at most, of prostate cancers in the United States are diagnosed after they have spread to distant tissues.

Many prostate tumours begin at the edges of the gland. There can be more than one tumour within a gland.

Men often first become aware of a prostate tumour when it puts pressure on the urethra or bladder.

In advanced prostate cancer, parts of the tumour metastasize through the blood and lymph to distant parts of the body, including lymph nodes and bones.

SURVIVAL STORY
When prostate cancer is diagnosed early, before it has spread, chances of survival are much higher⁵.

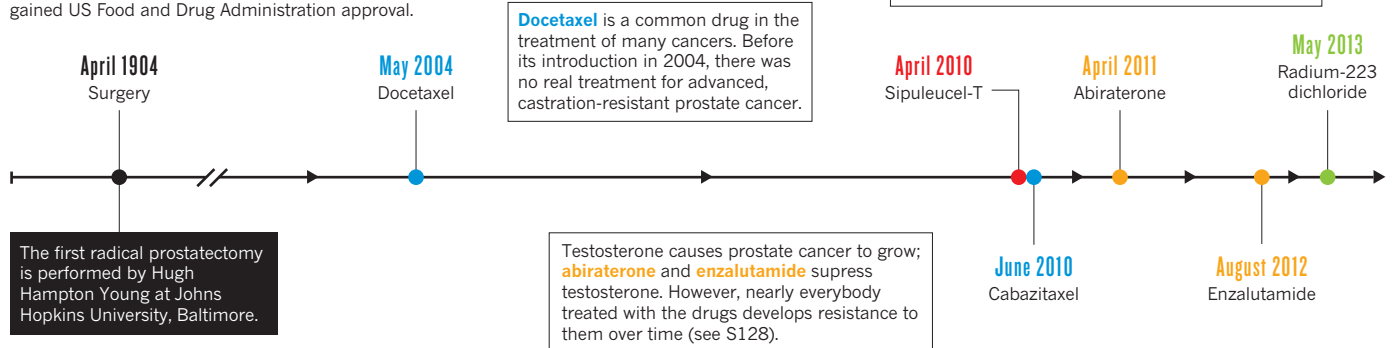
Stage	Survival Rate (%)
Local	100
Distant	28

A CENTURY OF TREATMENT

For localized prostate cancer, the most common intervention is surgical removal of the prostate — radical prostatectomy. If cancer has spread beyond the prostate it cannot be cured. Suppressing male hormones slows growth, but tumours can become resistant. Since 2004, therapies to target resistant metastatic cancer have gained US Food and Drug Administration approval.

- Chemotherapy
- Hormone therapy
- Immunotherapy
- Radiotherapy

The only approved immunotherapy for prostate cancer, **sipuleucel-T**, is costly and extends life by only a few months. Successors are in development, and combining them with other therapies may prove fruitful (see S134).



Sources: 1. International Agency for Research on Cancer; 2. National Cancer Intelligence Network; 3. National Cancer Institute's Surveillance, Epidemiology, and End Results Program; 4. Cancer Research UK; 5. Siegel, R. L. et al. *CA Cancer J. Clin.* **65**, 5–29 (2015).