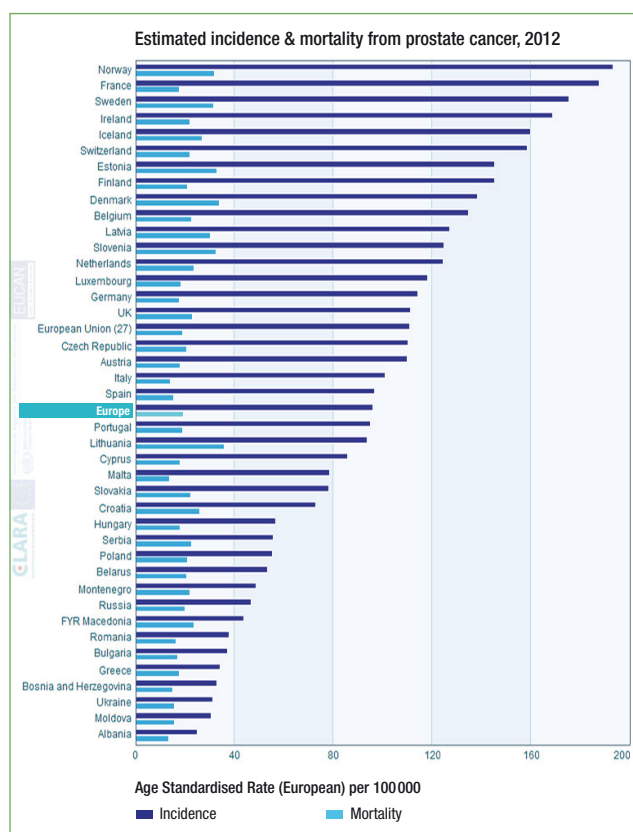
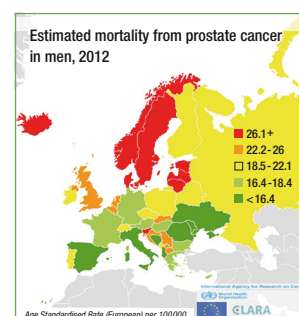
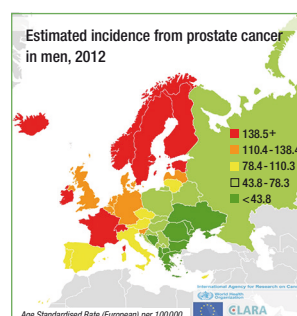


Prostate (PRC) Cancer Factsheet



- Prostate cancer (PRC) develops in the prostate, a gland in the male reproductive system located directly beneath the bladder, which adds secretions to the sperm during the ejaculation of semen.
- Approximately 417 000 Europeans were estimated to be diagnosed with PRC in 2012, which makes PRC the most frequent cancer amongst European men accounting for 12% of all new cases of cancer in Europe for this year.¹
- In the same year 92 200 European men were estimated to die from the disease accounting for 5% of all new cancer deaths in Europe.
- Worldwide: three-quarters of the registered cases of PRC occurred in high income countries in 2008. Incidence rates of PRC vary tremendously (25-fold): the highest rates are in Australia/New Zealand (104.2 per 100 000),

* ASR-E: age-adjusted rate to the standard European population (Doll, 1976) to account for the different age structure in various countries.



- Western and Northern Europe and Northern America whereas the lowest age-standardised incidence rate is estimated in South-Central Asia (4.1 per 100 000).²
- Worldwide: Half of the registered deaths occur in high income countries; however, mortality rates differ less (10-fold) than is observed for incidence (25-fold).² Highest death rates are in Afro-Caribbean countries.

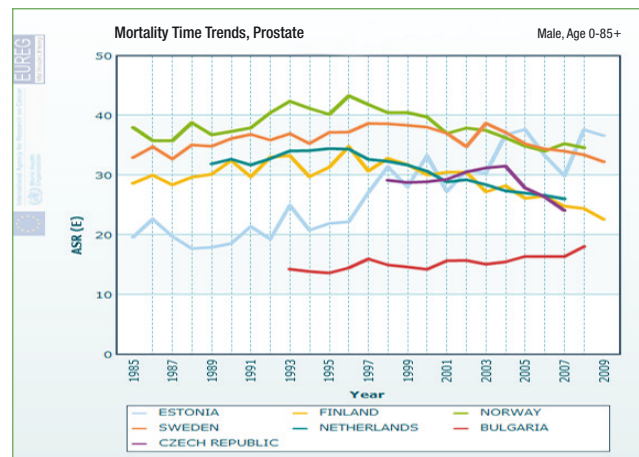
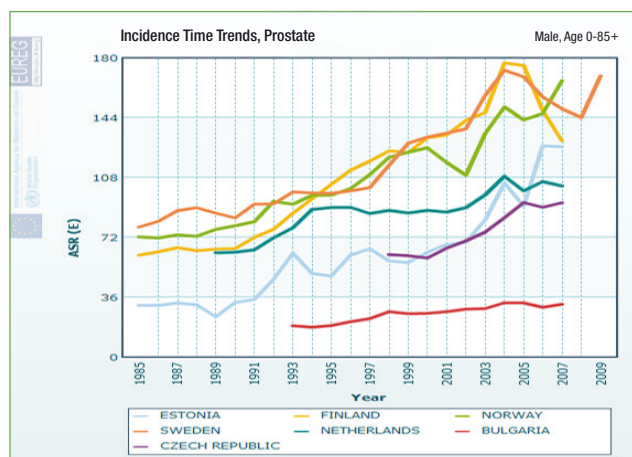
Regional differences in Europe in 2012 Estimated incidence and mortality¹

- The countries with the highest estimated incidence rates in Europe were Norway, France and Sweden.
- Norway reported the highest estimated age-standardized incidence rate* (ASR-E) of 193.2 new cases per 100 000 person-years, to be compared to the EU-39** ASR-E of 96.0.
- The countries with the lowest estimated incidence were Ukraine, Moldova and Albania, with ASR-E less than 32.
- The countries with the highest estimated mortality were Lithuania (ASR-E: 36.0), Denmark (ASR-E: 33.7) and Estonia (ASR-E: 32.8), compared with the estimated EU-39 average of 19.3 deaths per 100 000 person-years.
- Albania (ASR-E: 13.4), Malta (ASR-E: 13.6) and Italy (ASR-E: 14.1) reported the lowest estimated mortality rates from PRC in Europe for 2012.
- The variability in estimated mortality rates is clearly minor compared to the variability in estimated incidence rates.

** The European Cancer Observatory (ECO) estimates refers to the 39 European countries defined by the United Nations plus Cyprus.²

Temporal changes in selected European countries³

- An increasing trend in the incidence of PRC was observed in almost all European countries over last decades.
- The trends in the Nordic and Baltic countries showed the steepest increase with notable declines during last years in Finland and Sweden.
- Similar incidence patterns with a smooth increase occurred in Western and Southern Europe with a smaller average rate of increase and non-significant decline in the last years.
- Eastern European countries showed a more stable pattern in the incidence trends with a recent sharp increase in the Czech Republic.



PRC aetiology⁴

- The aetiology of PRC remains elusive, established risk factors are increasing age, black ethnic origin and a family history of prostate cancer in a close male relative. It is rare before the age of 50 and about 80% of cases and 90% of deaths occur in men over 65.^{5,6}
- DNA changes: on a basic level, PRC is caused by changes in the DNA which may happen during a person's lifetime or are inherited. The changes might be random events or may be influenced by other factors (diet, hormone levels, inflammation, etc.).
- Race: PRC affects more black men than white or Asian men and is more deadly in a black population.⁷
- Diet: men who eat a lot of red meat or high-fat dairy products seem to have a greater risk⁸ of PRC whereas a vegetarian diet may result in some benefit.⁹
- Sexual factors: having many sexual partners and starting early sexual activity, which increases a chance of sexually transmissible infections, substantially increases the risk of PRC.¹⁰ At the same time frequent ejaculation may decrease the risk of PRC.¹¹

Screening and prevention

- There are no population-based, organised programmes for PRC in Europe as existing detection tests for prostate cancer do not meet the criteria for screening. Opportunistic testing, using a blood Prostate specific Antigen, is prevalent mainly in the countries with highest healthcare.³
- PSA testing is responsible for the highest incidence and the sharp increases in the incidence time trends in the most Western European countries^{12,13} with little detectable change in mortality.
- A European study¹⁴ reported a mortality reduction but reported that 1055 men would need to be screened and 37 additional cases of prostate cancer treated to save one life. A major USA study¹⁵ reported no mortality benefit after PSA testing. They found that side effects from treatment include impotence, incontinence and bowel problems which have a considerable impact on quality of life and that the cost in terms of men's health problems was too high to recommend PSA as a screening test.

A list of references (1-15) is available (in PDF) at: http://www.enrcr.eu/images/docs/factsheets/ENCR_Factsheet_Prostate_2014_References.pdf.

Conclusions

- The cure for PRC is still under investigation. Several things, including genes, diet, ethnicity and hormones may play a part.
- Established risk factors are increasing age, black ethnic origin and a family history of prostate cancer in a close relative.
- Prostate cancer incidence rates have risen dramatically due to PSA testing with little change in mortality and existing international differences are masked by the widespread use of PSA testing in most Western European countries.
- Screening for prostate cancer is not recommended with existing available tests.