

Prostate Cancer
Incidence, Mortality and Survival Rates in
the United Kingdom
August 2013

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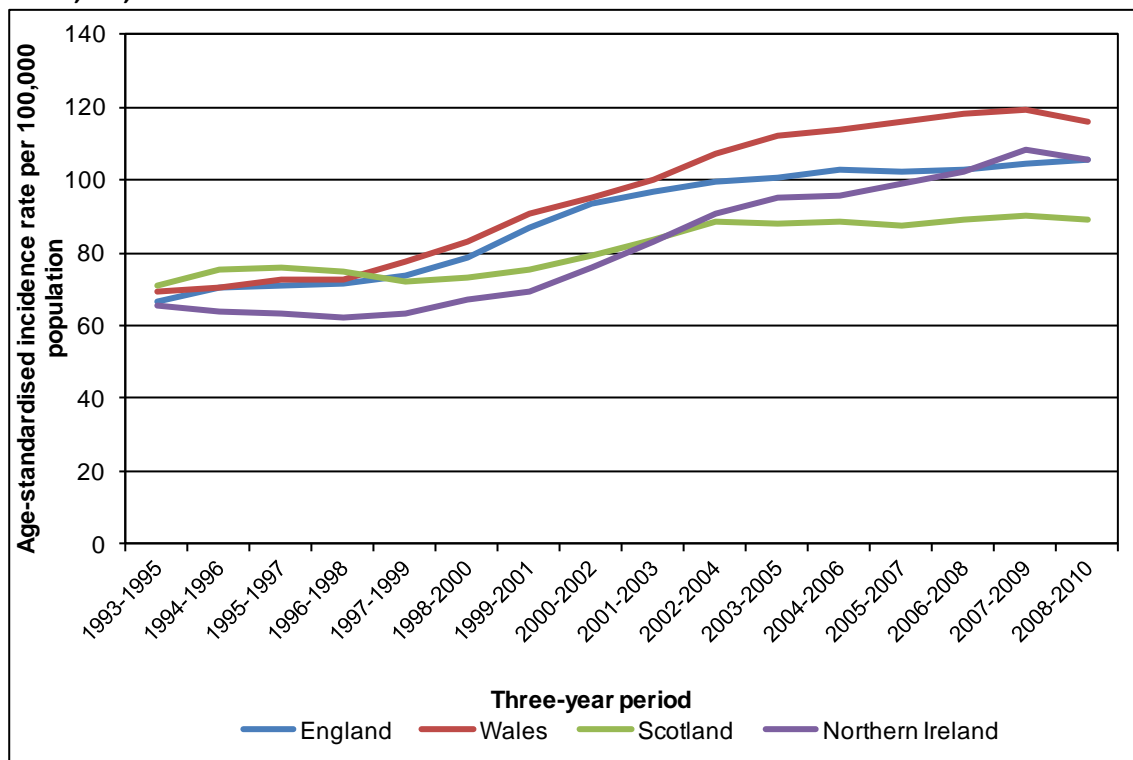
The National Cancer Intelligence Network (NCIN) is a UK-wide partnership operated by Public Health England. The NCIN coordinates and develops analysis and intelligence to drive improvements in prevention, standards of cancer care and clinical outcomes for cancer patients.

This summary factsheet presents data for ICD-10 C61 “Malignant neoplasm of prostate”. The most recent incidence and mortality data have been used. Rates are standardised to the 1976 European Standard Population. Where appropriate, rates are per 100,000 sex-specific population.

Incidence rates

In 2008-10, the age-standardised incidence rate of prostate cancer was significantly higher in all four countries when compared to 1993-95 ($p < 0.001$; Fig. 1). The incidence rates across the four countries in 1993-95 were 65.3-70.9 per 100,000 males, whilst in 2008-10 they were 89.0-116.0 per 100,000 males. The increase in incidence is mostly due to increased detection of asymptomatic disease through Prostate Specific Antigen (PSA) tests leading to biopsy.

Figure 1: Age-standardised incidence rate (per 100,000 males) of prostate cancer (ICD-10 C61), males, UK, 1993–2010

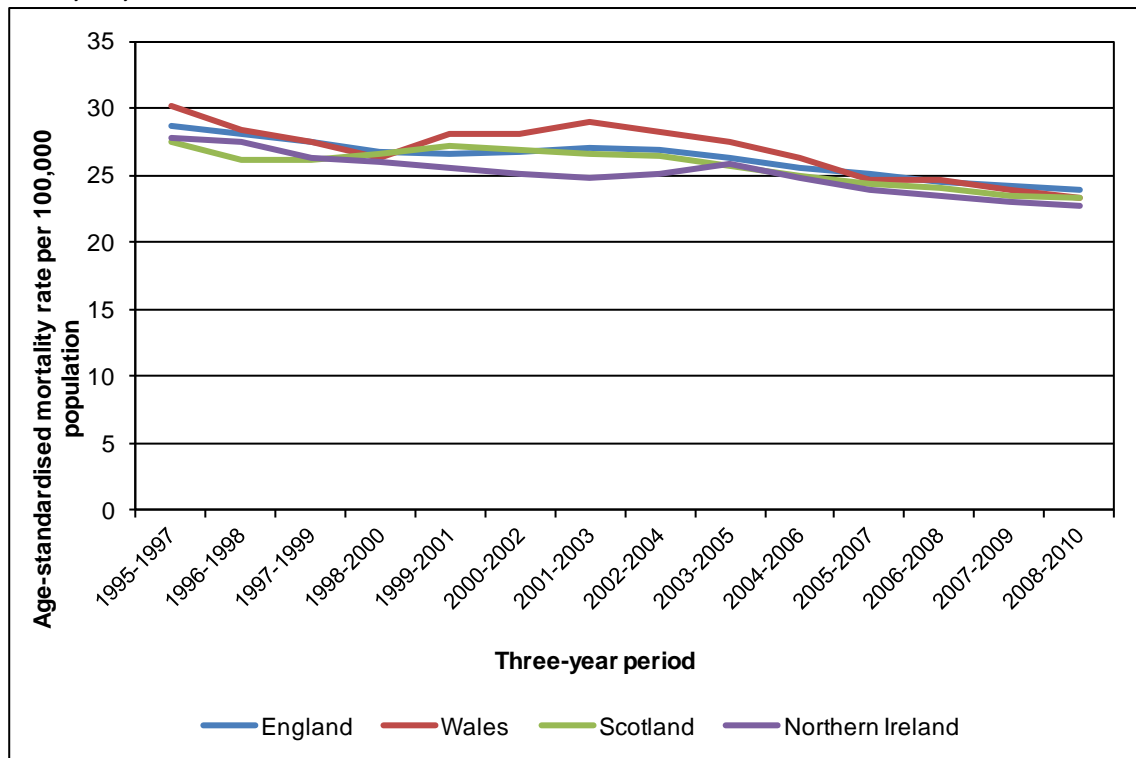


Source: Celtic National Cancer Data Repository

Mortality rates

The age-standardised mortality rate of prostate cancer was significantly lower in 2008-10 than in 1996-97 for all four countries ($p < 0.001$). The mortality rates in 1995-97 were 27.6-30.3 per 100,000 males, across the four countries, whilst in 2008-10 they were 22.7-23.9 per 100,000 males.

Figure 2: Age-standardised mortality rate (per 100,000 males) for prostate cancer (ICD-10 C61), males, UK, 1995–2010



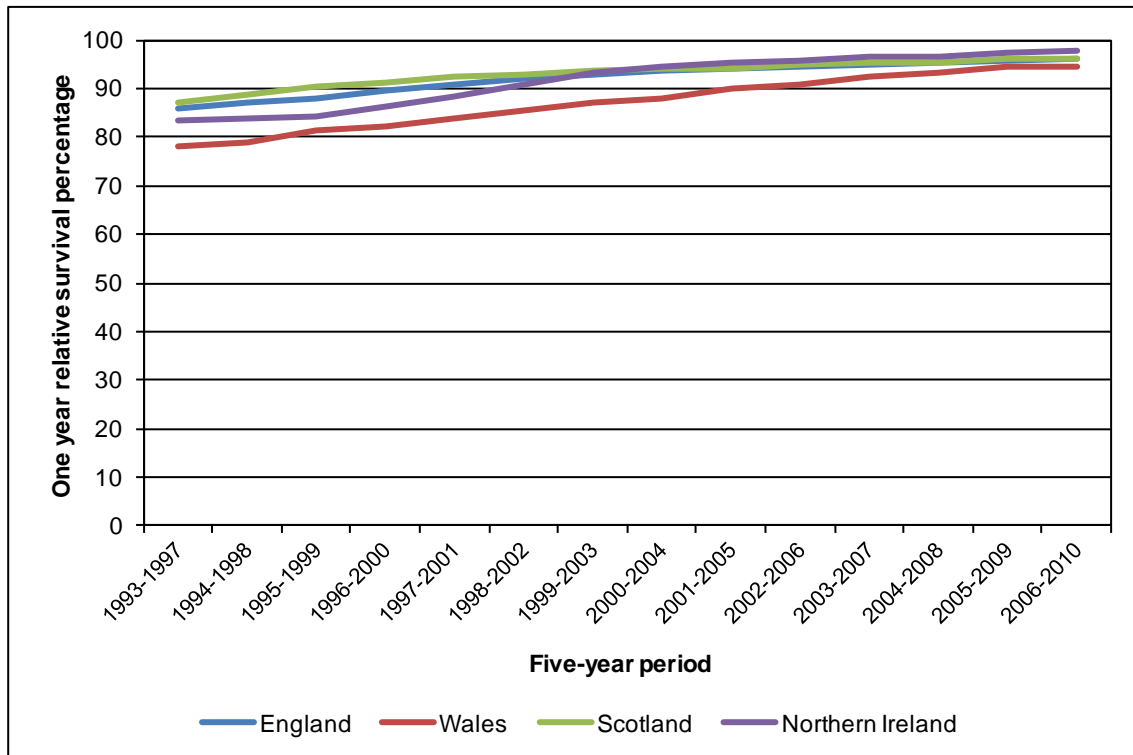
Source: Office for National Statistics, UK Cancer Information System (CIS)

Survival rates

One-year and five-year relative survival from prostate cancer was significantly higher in 2006-10 compared to 1993-97 in all four countries ($p < 0.001$) and is presented in Figure 3 and Figure 4. The one-year survival was 78-87% across the four countries in 1993-97, and 95-98% in 2006-10. Five-year survival was 56-66% in 1993-97 and 81-88% in 2002-06.

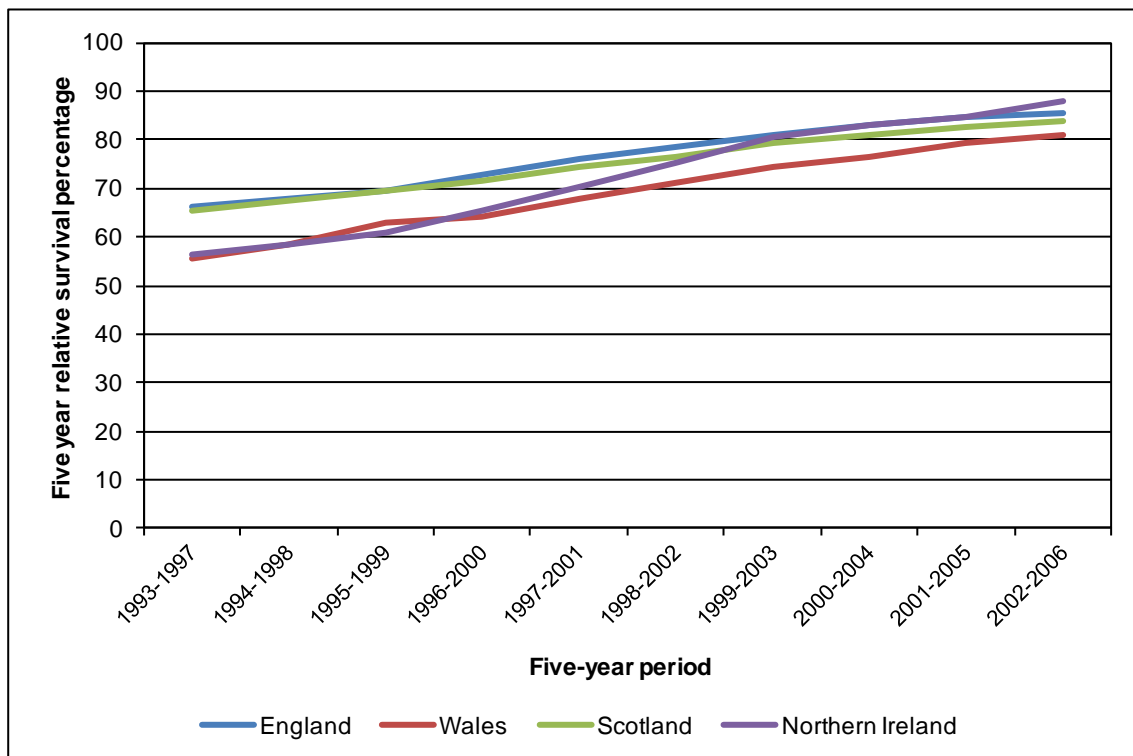
Calculation of survival for prostate cancer is complicated by lead-time bias, which is the time between detection by a test or screening and the point at which clinical detection may be expected i.e. screening may bring the diagnosis time forward compared to normal presentation. Moreover, many prostate cancers are slow-growing and may never cause symptoms, nor be the cause of death. Early testing or screening may introduce length bias, which is the preferential detection of slow-growing cancers. The increased uptake of PSA testing has led to earlier diagnosis and more diagnoses of non-aggressive tumours (Moore, et al., 2009), which may increase the survival time of men whose prostate cancers are diagnosed following a PSA test, but does not necessarily lead to reduced mortality.

Figure 3: One-year relative survival rate (%) for prostate cancer (ICD-10 C61), males, UK, 1993–2010



Source: Celtic National Cancer Data Repository

Figure 4: Five-year relative survival rate (%) for prostate cancer (ICD-10 C61), males, UK, 1993–2006



Source: Celtic National Cancer Data Repository

Key questions and next steps

- Has the increase in PSA testing led to differences in treatment related to socioeconomic status?
- How has Improving Outcomes Guidance affected treatment provision and choices?
- Explore age-specific incidence and mortality rates.
- Explore the influence of socioeconomic factors on incidence and mortality rates.
- Explore regional differences in rates of incidence and mortality.
- Explore changing stage patterns in relation to increased PSA testing, and the effect on treatment and outcomes such as mortality and survival.

References

Moore, A. L., Dimitropoulou, P., Lane, A., Powell, P. H., Greenberg, D. C., Brown, C. H., et al. (2009). Population-based prostate-specific antigen testing in the UK leads to a stage migration of prostate cancer. *British Journal of Urology international*, 104, 1592-1598.