HIGH MORTALITY AND POOR SURVIVAL OF MEN WITH PROSTATE CANCER IN RURAL AND REMOTE AUSTRALIA
The prostate is a small gland the size of a walnut which produces fluid to protect and lubricate the sperm.

It sits beneath the bladder and surrounds the urethra in the shape of a doughnut.
Main Prostate Health Issues

**Lower Urinary Tract Symptoms (LUTS)** — frequency, urgency, difficulty emptying the bladder, difficulty starting urination, slow stream, a bladder that does not feel empty after urinating, leaking

**Benign Prostatic Hyperplasia (BPH)** — an enlarged prostate when older men may have to urinate several times at night

**Prostatitis** — swelling of the prostate caused by an infection or inflammation

**Prostate Cancer**
Prostate Cancer

There are more prostate cancer deaths than breast cancer deaths in Australia

Australian Institute of Health and Welfare Cancer in Australia Report 2001
2,700 Australian men die annually from prostate cancer

Australian Institute of Health and Welfare Cancer in Australia Report 2001
12,000 new cases of prostate cancer are diagnosed annually in Australia

Australian Institute of Health and Welfare Cancer in Australia Report 2001
Prostate cancer is the most common cancer in Australian men excluding non-melanoma skin cancers

Australian Institute of Health and Welfare Cancer in Australia Report 2001
Australian men have a one in eleven lifetime risk of developing prostate cancer

Australian Institute of Health and Welfare Cancer in Australia Report 2001
Certain risk factors have been consistently associated with prostate cancer

Gender - only men have a prostate gland

Age - risk of prostate cancer increases with age for men from 50 years

Family History - men whose father or brother has or has had prostate cancer are at increased risk of developing it
Ethnicity - African-American men have the highest incidence of prostate cancer in the world and Asian men have the lowest

Lifestyle, lack of exercise, obesity and a high saturated fat diet are thought to be risk factors in prostate cancer; however the level of current evidence is low

Of interest is that Asian men who migrate to the USA eventually have similar rates of prostate cancer to Caucasian Americans
Symptoms of early prostate cancer
Treatment options

1. **Watchful waiting or Active surveillance**
2. **Surgery**
   a. Open radical prostatectomy
   b. Laparoscopic radical prostatectomy
   c. Robotic radical prostatectomy
3. **Radiotherapy**
   a. External beam radiation
   b. Seed implant brachytherapy
   c. High dose rate brachytherapy
4. **Hormone manipulation**
Other treatment options
HIFU (High Intensity Focused Ultrasound) - heating
Cryotherapy – freezing
Chemotherapy
Possible treatment side effects

**After surgery** – possible impotence and urinary incontinence

**During and after radiotherapy** – possible impotence, urinary incontinence, nausea, skin reactions, diarrhoea, lethargy

**During hormone therapy** – possible loss of libido, hot flushes and mood swings, loss of energy levels
Regional and rural Australian men have a 21% higher mortality than men in capital cities

For every 100 men in Australian cities who die of prostate cancer, 121 men in regional and rural Australia die of prostate cancer

Michael D Coory and Peter Baade Medical Journal of Australia February 2005
Urban-rural differences in prostate cancer mortality, radical prostatectomy and prostate specific antigen testing in Australia
Coory and Baade found a statistically significant and increasing, age standardised, mortality excess of 21% for prostate cancer in regional and rural Australia compared with capital cities in 2000 - 2002.
Rates of radical prostatectomy in rural and regional Australia were 29% lower than in capital cities.
Although PSA testing is common across the whole of Australia, age-standardised rates in 2002/03 were 16% lower in regional and rural areas than in capital cities.
The results show that the probabilities of a man having a PSA test and the management of his prostate cancer depend on where he lives.
Health outcomes for rural men and men of low socio-economic status, post diagnosis of prostate cancer, are generally compromised compared to their urban counterparts and men of higher socio-economic status.
A significant factor in this scenario is late diagnosis due to late presentation of rural men to their GP. Hence generally more advanced and aggressive prostate cancer is found.
Early detection of prostate cancer with prostate-specific antigen (PSA) testing is widely practiced and may have contributed to recent decline in mortality for this disease, although the benefit of PSA screening on mortality has not yet been documented in a randomized trial.
The results of two large clinical trials are due in 2008-10.

The European Randomised Study of Screening for Prostate Cancer (ERSPC) started in 1994, involving 239,000 men, is due for completion in 2008.
And the United States Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial (PLCO) involving 74,000 men aged 55 – 74. Results of this trial are due this year in 2007.
It is considered most unlikely that PSA testing is obscuring higher rates of particularly aggressive prostate cancer in regional and rural Australia. The incidence was similar in urban and rural areas before 1990 and the widespread use of PSA testing.
Improved detection rates, due to the prostate specific antigen (PSA) test, have led to a better prognosis in recent years.

According to the American Cancer Society, over 90% of men with prostate cancer will survive five years and over 70% will survive ten years.
Previous studies have found urban-rural differences in the management of other cancers. For example: women with breast cancer in rural Victoria were less likely to be identified by screening and less likely to receive conservative treatment than their urban counterparts.
Possible reason for the higher mortality in rural areas
Reduced PSA screening and radical prostatectomy for early-stage disease, either independently or in combination, are among several competing explanations.
Lower rates of radical prostatectomy in rural areas may reflect non-equitable access to urologists.

Geographical differences in the management of patients with advanced prostate cancer must certainly play a role.
Effectiveness of drug induced androgen deprivation in urban areas may reduce mortality rates from prostate cancer by deferring death sufficiently for competing causes to supervene.
Geographical variation in the availability and use of radiation oncology is another explanation for the excess of mortality in regional and rural areas.
Fewer radical prostatectomy procedures in regional and rural areas, perhaps associated with less PSA testing

Other differences in management, perhaps associated with access to urologists

Results show that the diagnosis and treatment of prostate cancer depends on where the patient lives
A systematic review found only 15 studies which set out to assess the effectiveness of different strategies for delivering cancer services in rural areas. Evidence suggesting that shared outreach care was safe and made specialist care more accessible to rural patients.
It is well recognised that many urology oncology services particularly in rural health areas have limited resources and staff to ensure that all patients, their families and carers receive appropriate psychosocial and practical support over the course of the treatment continuum.
The psychosocial impact of prostate cancer is not hard to predict. Men with prostate cancer experience the fear and uncertainty associated with any other form of cancer, but additionally worry about the loss of their masculinity dealing with incontinence and impotence.
Issues of equity of access for health consumers in rural Australia to psycho-oncology teams will be enhanced through the progressive development and expansion of multidisciplinary care teams.
Evidence about the effectiveness of testing and early treatment is necessary.

Effective education and awareness of prostate health issues for rural Australian men of all ages is necessary.

Strategies for providing equitable access to services for prostate cancer in regional and rural areas is necessary.
Acknowledgements
Andrew Giles CEO PCFA
David Smith Cancer Council of NSW
Cancer Research and Registers Division
John Ramsay PCFA
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7. European Randomised Study of Screening for Prostate Cancer ERSPC accessed on 10/07/06 [http://www.erspc.org/](http://www.erspc.org/)


