

Introduction

In New Zealand, prostate cancer is the most commonly diagnosed cancer in men and the third leading cause of cancer deaths in men [1, 2]. Most men who are diagnosed with prostate cancer will not die of it, but it can have a major impact on a man's life. Māori and Pacific men are more likely to die of prostate cancer compared with other NZ men [3-5].

The established risk factors for prostate cancer are age and a family history of prostate cancer in a close male relative. Increasing age is the most important risk factor for developing prostate cancer - 90% of new prostate cases occur in men aged 55 years and over [6, 7]. Tobacco smoking and obesity are also risk factors for advanced prostate cancer [8].

For men of any age, prostate concerns should be discussed with their doctor. These concerns may include difficulty urinating, blood in semen and erectile dysfunction. Difficulty urinating is common in older men and is usually caused by non-cancerous enlargement of the prostate, but should be investigated.

Although it is important that symptoms are investigated, the decision to have a PSA test if no prostate symptoms are present is less evident [9]. This is because it is unclear if PSA screening affects the risk of dying from prostate cancer - large trials have presented inconsistent results [10-21]. At best, screening may slightly lower the risk [9]. However, PSA testing does reduce the risk of having metastases (cancer that has spread) at diagnosis of prostate cancer [22]. In summary, giving men without symptoms a PSA test may not change the ultimate outcome if cancer is present, but many men will be faced with unnecessary treatment-related harms, including sexual dysfunction, bowel problems and faecal and urinary incontinence [16]. This uncertainty about the balance of benefits and risks of PSA testing is why no country has a national population-based screening programme [23].

In NZ, PSA blood testing is requested by a man or offered by a doctor. The decision to be tested may be appropriate for some men, particularly if they have prostate-related concerns and/or a family history of prostate cancer. Men should be supported by their doctor to make an informed decision.

The Cancer Society will continue to invest in prostate cancer research, the development of evidence-based guidelines and culturally appropriate consumer information; and advocate for equitable health care and treatment. Preventing the morbidity and mortality associated with prostate cancer is a national priority.

Recommendations¹

Recommendation 1: Men without prostate symptoms and concerns (who do not have a family history of prostate cancer)

- The Cancer Society encourages men who are considering being tested for prostate cancer to weigh the potential advantages and disadvantages of PSA testing and treatment before deciding whether to proceed (see potential benefits and harms on page 3).
- Men should be supported by their doctor to make an informed decision based on the balance of benefits and harms, their own preferences, along with their individual family history, age, ethnicity and their own health.
- It may be useful to use a decision aid such as kupe.net.nz to help men decide if a PSA test is right for them (during a GP /practice nurse consultation or self-directed).
- PSA screening is not generally recommended for men aged 70 years and older at average risk because it's unlikely to help men in this age group live longer (most cases of prostate cancer grow very slowly) [24] and the harms are likely to be greater than the benefits [16]. Men of any age should have prostate symptoms investigated by their doctor.
- Digital rectal examination (DRE) is not generally recommended for men without symptoms but remains an important part of assessment for men with symptoms or for surveillance after prostate cancer.

Recommendation 2: Men with prostate symptoms and concerns

- The Cancer society urges men with prostate symptoms to have these checked by their doctor so that they can get the right investigations, and

treatment if they need it.

- Symptoms of prostate cancer may include changes in urinary flow, urgency or control, blood in urine or semen, problems getting or keeping an erection, back pain, hip pain or pelvis pain and unexplained weight loss.
- Problems urinating are common among older men and are usually caused by non-cancerous enlargement of the prostate, but should be investigated.
- Men with prostate concerns may be offered several different tests, including the PSA blood test and a DRE.
- For men with prostate related concerns, the Prostate Cancer Management and Referral Guidance should be taken into account during discussion with their doctor².

Recommendation 3: Men with a family history of prostate cancer

- Men with a family history of prostate cancer (a father or brother) should discuss the best options for them with a medical practitioner, taking the Prostate Cancer Management and Referral Guidance into account³. Discussion should include information about their increased risk of developing cancer, the potentially earlier age of onset and potential harms and benefits of testing.
- Having a first-degree relative with prostate cancer increases the risk of developing this disease and increases the risk of recurrence [25, 26]. Having a brother with prostate cancer increases the risk of prostate cancer 3-fold, while for those with an affected father, the risk is 2 times higher than the average risk [26].
- The risk is much higher for men with several affected relatives, particularly if their relatives were young when the cancer was found. Men

¹ These recommendations are for people with a prostate: men, trans women, non-binary people assigned male at birth, some intersex people.

² https://www.health.govt.nz/system/files/documents/publications/prostate-cancer-management-referral-guidance_sept15-c.pdf.

³ https://www.health.govt.nz/system/files/documents/publications/prostate-cancer-management-referral-guidance_sept15-c.pdf.

who had two or more first-degree relatives with prostate cancer have over 4 times the risk of prostate cancer compared with those with none [26].

- Men with three first-degree relatives with prostate cancer or two close relatives on the same side of the family with prostate cancer diagnosed before age 55 years may have an inheritable form of prostate cancer [27]. This type of prostate cancer is thought to account for around 9% of all prostate cancer cases [28].

Recommendation 4: Equity - Māori and Pacific men

- Māori men are less likely to be diagnosed but more likely to die from prostate cancer than non-Māori men due to later stage at diagnosis, co-existence of other diseases, and poorer access to treatment and care [3, 29]. Pasifika men also have a higher prostate cancer mortality rate [5, 29].
- Because of this increased risk of dying from this disease, every effort should be made to identify those with a family history of the disease, to

investigate symptoms and to follow-up to ensure equitable surveillance and/or care if cancer is detected.

- The Cancer Society strongly supports: investment in efforts to ensure Māori and Pacific men receive
 - Culturally appropriate, accessible evidence-based information about prostate cancer testing and treatment, which men can use to make informed decisions.
 - Equitable access to high quality diagnostic services, treatment and care.
 - Timely access to high-quality care along the entire treatment pathway should be a priority.
- There is also a real need for more research to help us understand the potential benefits and harms of PSA screening and different starting ages and testing intervals among Māori and Pacific men given the large disparities in prostate cancer mortality in these population groups. It remains uncertain whether the impact of screening is similar in these higher risk men in comparison to men at lower risk [9].

Potential benefits and harms of PSA testing

PSA-based screening has both benefits and harms that vary with age, ethnicity and familial risk [30].

Benefits of PSA testing:

- PSA screening may slightly lower a man's risk of dying from prostate cancer but the possibility that it has no impact on dying cannot be excluded [13, 15, 31].
- Reassurance that prostate cancer is unlikely to be present if the man's PSA is normal.
- PSA testing reduces the risk of having metastases (cancer that has spread) at diagnosis of prostate cancer [22]. However, 20% of men with localised prostate cancer treated with prostatectomy⁴ will still develop metastases despite surgery [32].
- If a man is found to have localised, low-risk

prostate cancer, he has the option of having active surveillance (treatment is deferred unless evidence of progression is found during periodic testing). This will allow him to delay or avoid potential treatment-related harms.

- Less invasive treatment for some people with early cancer.

Harms of PSA testing:

- Some prostate cancers detected through PSA testing will not result in future health problems if left untreated (overdiagnosis). If these cancers are treated (overtreatment) this may lead to unnecessary harms including: mortality (about 3 in 1,000 men die during or soon after radical prostatectomy and about 50 in 1,000 men have serious surgical complications), long-term erectile

⁴ Prostatectomy is surgical removal of the prostate, a common treatment option for localised prostate cancer, along with radiation therapy and active surveillance.

dysfunction (2 in 3 men), urinary incontinence (about 1 in 5 men are incontinent after radical prostatectomy) and chronic bowel urgency or faecal incontinence (1 in 6 men experience bowel symptoms) [14].

- Unnecessary treatment may also result in a reduction in a man's quality of life due to the side effects from the treatment.
- False reassurance and possible delay in cancer

diagnosis for men that have a normal or low PSA, but prostate cancer is present (false negative).

- Anxiety and sometimes damage for people with false positive screen results (men without prostate cancer that have a positive PSA test result).
- Complications of prostate biopsy include infection, pain, and bleeding. The risks of some complications may increase with repeated biopsies [33].

Prostate cancer screening programme

Opportunistic PSA screening for prostate cancer among asymptomatic men is widespread in NZ [15]. An organised population-based prostate screening programme, similar to the national breast, cervical and bowel cancer screening programmes, is not offered in NZ or in any other country in the world [23].

Although the high prostate cancer mortality rate justifies a population-based screening programme, a suitable screening test is not currently available. It is not clear whether screening saves lives or whether men who are screened live longer - at best it may offer a small protective effect [6-11].

Screening is the practice of detecting unrecognised disease or its precursors so that disease can be prevented or delayed. As an organised screening programme actively invites 'healthy' populations, it is particularly important that the benefits outweigh the risks of taking part. It is generally accepted that the benefits do not outweigh the risks for routine PSA-based prostate screening. For this reason, a population-based screening programme or 'one size fits all' modality is unjustifiable and instead a personalised approach to PSA testing is recommended.

Reduce the risk of prostate cancer

Although some risks cannot be avoided, such as age or inherited genes, there are some actions that may lower the chance of prostate cancer.

The following protective factors may decrease the risk of prostate cancer:

- Maintain a healthy weight. There is strong evidence that being overweight or obese increases the risk of advanced prostate cancer.
- Quit smoking. Men who smoke have a higher risk of prostate cancer mortality and worse outcomes after treatment.
- Be physically active. There is strong evidence that regular physical activity decreases the risk of

advanced prostate cancer.

The following have been proven not to affect the risk of prostate cancer, or their effects on prostate cancer risk are not known:

- There is strong evidence that consuming beta-carotene (in the diet or as supplements) is unlikely to have a substantial effect on the risk of prostate cancer .
- The evidence that higher consumption of dairy products increases the risk of prostate cancer is limited.

- There is limited evidence that low selenium and alpha-tocopherol (Vitamin E) concentrations in the blood increases the risk of prostate cancer.
- No conclusions have yet been made about the risk of prostate cancer and Vitamin C, Vitamin D, retinol, lycopene, folate, thiamine, gamma-tocopherol, multi-vitamins, selenium supplements, iron, phosphorous and zinc.

This prevention information is based on the World Cancer Research Fund/American Institute for Cancer Research. Continuous Update Project Expert Report 2018. Diet, nutrition, physical activity and prostate cancer. Available at dietandcancerreport.org.

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This position statement has been reviewed and endorsed by the following Cancer Society Boards and Committees:

NZCS Board, Health Promotion Advisory Committee, National Executive Committee, National Finance, Audit and Risk Advisory Committee.

Expert reviewers:

Professor Ann Richardson, Prof of Epidemiology, University of Canterbury

Professor Ross Lawrenson, Professor of Population Health, the University of Waikato

Jane McEntee, General Manager, Auckland Regional Public Health Services

Internal reviewers: Men's Health Group

Developed by: Dr Rachel Nicholls, Cancer Society National Office

Disclaimer: expert reviewers are not responsible for the final content of position statements. Views may vary.

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