

Advancing Inclusive Prostate Cancer Care: Extending the Reach of Mobile PSMA-PET/CT to Local, Regional, and Remote Communities Across Aotearoa/New Zealand

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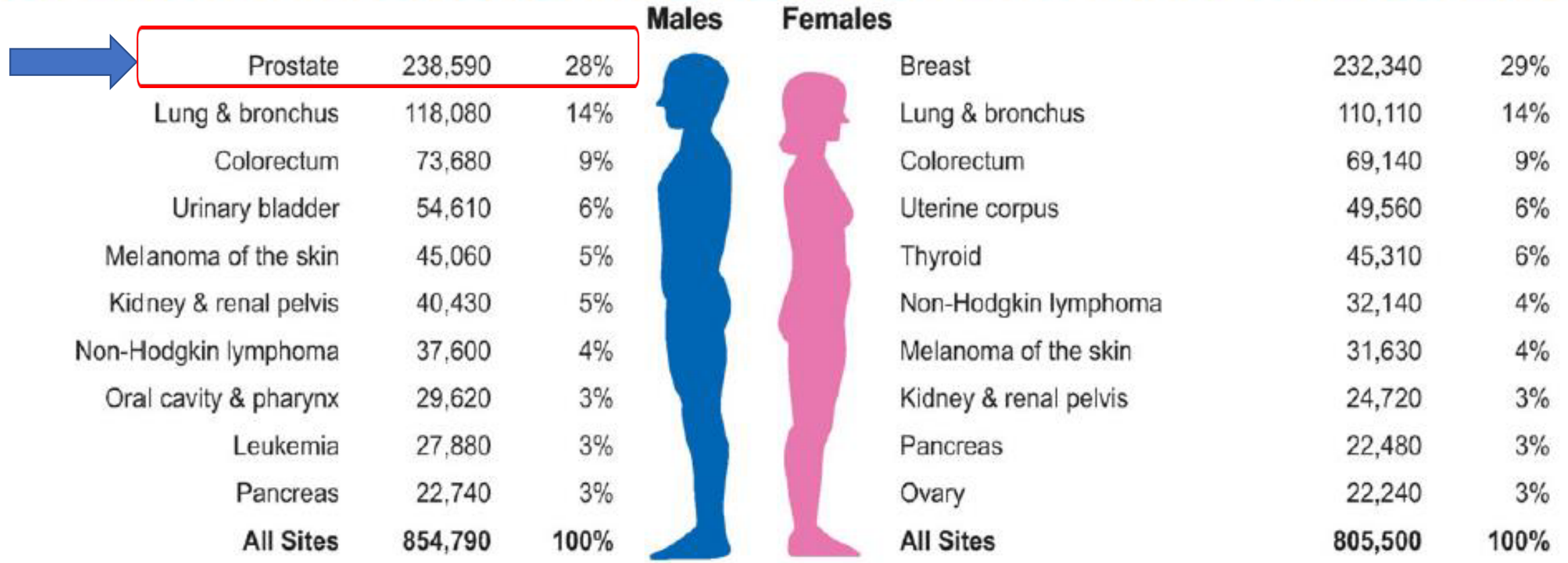


Objectives

- To discuss the extension of PSMA-PET/CT services to diverse communities across Aotearoa/New Zealand.
- Highlight the importance of equitable access to advanced diagnostic technologies

Epidemiology (Global data)

Estimated New Cases*



Siegel R et al. CA Cancer J Clin 2013; 63:11-30

Epidemiology (NZ Data)

- **25,000** NZ men are currently living with a diagnosis of prostate cancer (*MOH, 2018*)
- **3000** new cases are being diagnosed with prostate cancer, each year
- **560** are likely to die each year from metastatic prostate cancer


Important to note:

- % of these cases already have metastatic disease at the time of their first diagnosis
- This indicates that early detection is being missed



Original Article

Differences in survival between Māori and New Zealand Europeans with prostate cancer

C. Lao MSc , Z. Obertová, C. Brown PhD ... [See all authors](#) ▾

First published: 26 February 2016 | <https://doi.org/10.1111/ecc.12468> | Citations: 4

Prostate cancer risk in Maori men

Overview by Dr Cynthia O'Sullivan
Advanced training registrar in Urology

Wellington Public Hospital

Abstract

This study aims to examine the survival disparity between Māori men and New Zealand (NZ) Europeans diagnosed with prostate cancer. We identified men aged 40+ years in the Midland Cancer Network region registered with prostate cancer in 2007–2010 in the Cancer Registry. Data were extracted from patient notes of all Māori men and a sample of NZ Europeans. The survival disparity between Māori men and Europeans was estimated by the Kaplan–Meier method and Cox proportional-hazards regression models after adjusting for other factors. This study included 535 men with prostate cancer (135 Māori men and 400 Europeans). The 5-year cancer-specific survival was 98.6% for men diagnosed with localised cancer, 88.8% for locally advanced disease and 19.1% for metastatic cancer. The all-cause survival and the cancer-specific survival were both significantly poorer for Māori men than for NZ Europeans (log rank test: $P = 0.004$, 0.006 respectively). The hazard ratio of cancer-specific survival for Māori men was 2.01 (95% CI: 1.21–3.36) compared with NZ Europeans. Māori men with prostate cancer had poorer all-cause survival and cancer-specific survival than NZ Europeans. Māori men were at risk of having more advanced disease at diagnosis, which explains most of the survival inequity between Māori men and NZ Europeans.

Māori people, the Tangata Whenua of Aotearoa make up 16.5% of the country's population. Māori men have a lower overall life expectancy and poorer health outcomes across all conditions, cancer and non-cancer causes compared with their Pākehā counterparts. Unfortunately, Prostate cancer is no exception. Māori men are about 20% less likely to be diagnosed with prostate cancer than Non-Māori men but 50% more likely to die from the disease once diagnosed.

Metastatic Castration resistant prostate cancer (mCRPC)

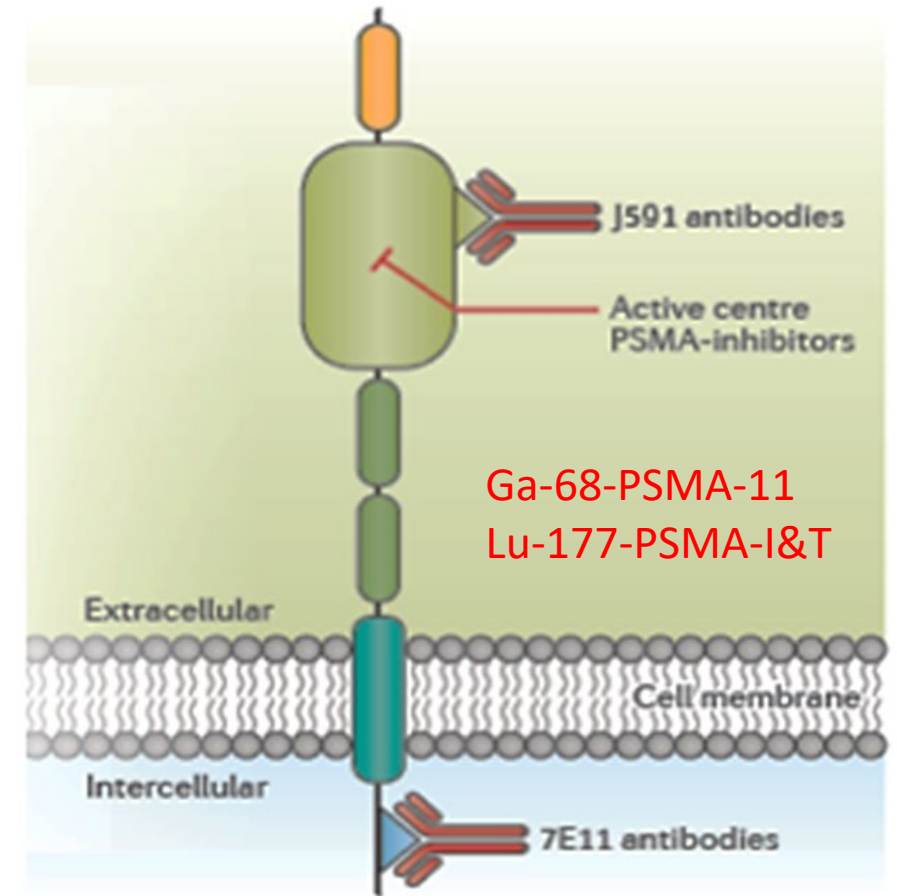
A proportion of prostate cancer patients will continue to progress following systemic treatment and **cease** to respond to **hormonal manipulation or chemotherapy**

Features:

- No response to Androgen deprivation therapy (ADT)
- Continuous rise in the PSA value
- Metastatic spread to bone, lymph nodes and visceral organs
- Reduction in the overall survival rate of patients
- Life expectancy of the patients' usually 14-16 months

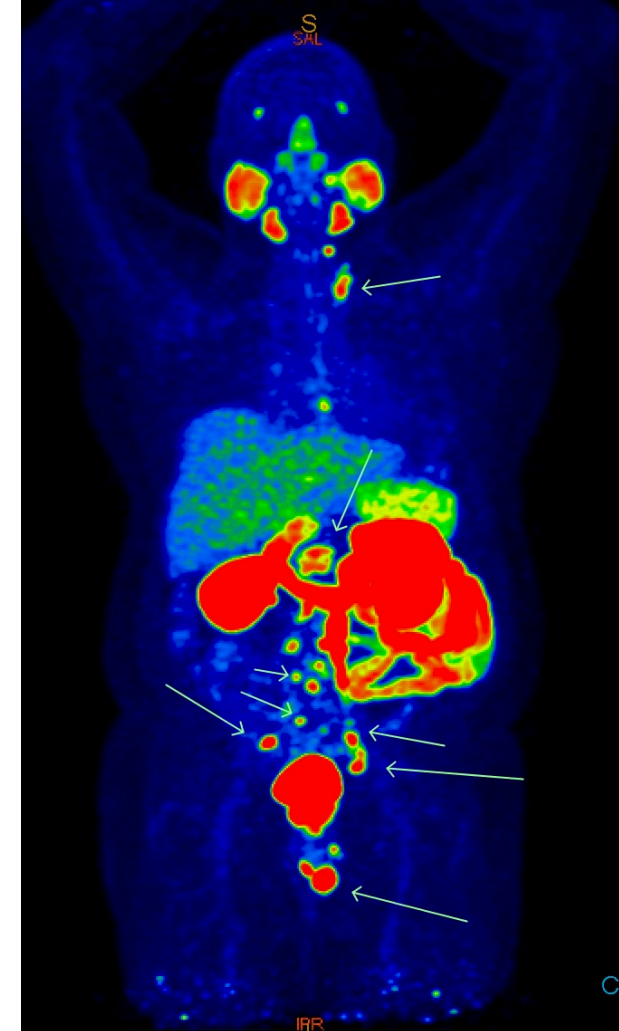
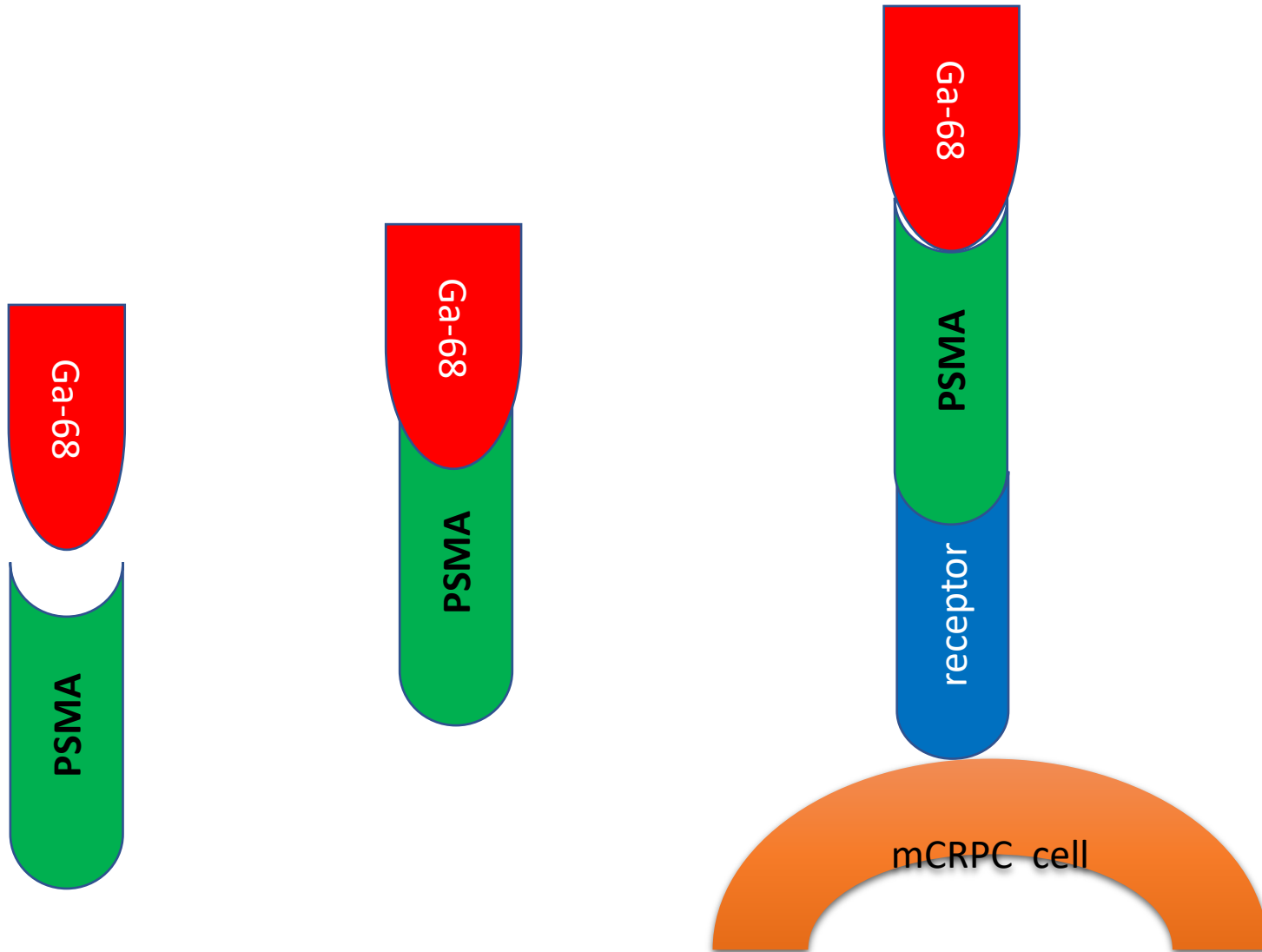
Metastatic Castration resistant prostate cancer (mCRPC) and PSMA

- 90-95% metastatic prostate cancer cells expresses Prostate specific membrane antigen (PSMA) transmembrane protein
- PSMA can be a target for **imaging and treatment of prostate cancer**



Maurer T et al, Nat Rev Urol, 2016

Ga68-PSMA and Mechanism of imaging



Various PSMA ligands and radionuclides suitable for labelling

PSMA ligands in use currently

J591
PSMA-617
PSMA-I&T
PSMA-11
PSMA-DCFPyL

Radionuclide used currently

Ga-68
F-18
Tc-99m
Cu-64
Lu-177
Tb-161
Ac-225



Mercy
Radiology



Challenges with the PSMA imaging in NZ

- Limited **number** of PET-CT scanner
- Availability of services are in major cities
- Accessibility to PET-CT based PSMA scans
- **Lengthy** process of production for PSMA based radiopharmaceuticals

Probable solution



What will be achieved

- Quality services at your doorstep
- Higher possibilities and scalability of mobile units in adapting to the needs of diverse populations and geographical location
- Potential impact of extending PSMA-PET/CT services to underserved communities.
- Increased access to **advanced diagnostic technologies** can lead to earlier detection, more personalized treatment plans, and improved patient outcomes.
- Societal benefits of reducing healthcare disparities and promoting health equity in New Zealand

Extending Reach Across Aotearoa/New Zealand of Mobile PET-CT services

- **Logistical considerations** such as transportation, scheduling, and staffing to ensure the successful implementation of mobile units.
- **Partnerships** with local healthcare providers, community organizations, and government agencies to facilitate outreach efforts.
- **Strategies** for extending the reach of mobile PSMA-PET/CT units to local, regional, and remote communities.

Conclusion

- The convergence of mobile PET-CT units and Ilucix offers a streamlined approach to delivering high-quality PSMA services in New Zealand.
- Ready-made PSMA-based kits and mobile PET-CT scanners signal a promising future for prostate cancer care, underscoring the potential for enhanced accessibility and diagnostic efficiency nationwide.
- These advancements hold considerable promise for improving healthcare outcomes and promoting equity in diagnostic access across diverse communities.

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- Thank you !!