MONASH INSTITUTE OF MEDICAL RESEARCH

SUBMISSION TO SENATE SELECT COMMITTEE ON MEN'S HEALTH

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I welcome the opportunity to make a submission to the Senate Select Committee on Men's Health, established to inquire into the availability and effectiveness of education, support and services for men's health. I believe a particular opportunity exists now to deliver improved outcomes in this area, by capitalising on the initial strengths that Australia has established in its world class research, infrastructure and clinical services, and building on this foundation via targeted, integrated translation programs which will improve overall health outcomes for Australian men.

This submission will focus primarily on the first term of reference, that is:

> ToR 1: "the level of Commonwealth, State and other funding addressing men's health, particularly prostate cancer, testicular cancer and depression".

My recommendations will focus in particular on the aspects of funding that relate to research on prostate cancer. In summary, these recommendations are:

1. Prostate cancer tissue banks should continue to be coordinated at a national level, with ongoing funding to support this important resource.

2. The timing of funding for programs at the Federal and State levels should be coordinated over multiple years to ensure continuity. For example, ongoing funding for the Victorian Prostate Cancer Research Consortium is desirable.

3. Attention should be given in funding schemes to reward and promote involvement of leading basic researchers in translational research, training of young clinicians and community education.

4. A funding scheme should be established to support involvement of young urologic surgeons-in-training in established basic research programs for 1-2 years.

Background

My perspective on the needs and opportunities in the area of Men's Health comes from my past 30 years of experience in this field, primarily as a research leader in the area of prostate cancer but also through executive roles in Men's Health organizations such as Andrology Australia, the Australian Centre for Excellence in Male Reproductive Health and the Freemason's Foundation Centre for Men's Health. I have been active in the development of national research infrastructure and collaborations, such as the Australian Prostate Cancer Collaboration and Australian Prostate Cancer BioResource. At an international level, I am an invited reviewer of international prostate cancer centres, editor of international research journals, and a participant in international research consortia on prostate cancer. At the local level I

am active in community education seminars on Men's health, clinical engagement and policy development.

With this background experience, I have found that **the key to successful research programs in this field is the successful integration of basic researchers and clinicians**. For example, in my current role as the Director of the Centre for Urological Research, we have achieved this through our collaboration with the Department of Urology at Monash Medical Centre, headed by Prof Mark Frydenberg, which is the largest hospital Department of Urology in Australia. Our track record in collaborative research and training of clinical and research fellows dates back over twelve years, and our successes are evident by the international reputation and competitiveness achieved. For example several international grants have been obtained from the major funding body for cancer research in the USA – the USA Army Medical Research and Material Command (DOD), which provides grants through its PCRP scheme to fund "innovative, high-impact research relevant to the prevention, detection, diagnosis, and/or treatment of human prostate cancer."

A common theme to my recommendations relates to the importance of ensuring funding schemes are designed so as to bring together the expertise of researchers, clinicians, public educators, service providers and patient advocates in the area of Men's Health, and coordinate involvement at a local, state and national level.

Recommendations

1. Coordination of Funding and Initiatives at Federal and State levels

i. Funding Support for the Australian Prostate Cancer BioResource

A key element to achieving excellence in research is the need to build capacity by first establishing the foundation infrastructure. For prostate cancer research, this centres on collecting clinical specimens. Through significant investment at the State and Federal levels over the last 5 years, Australia has established a unique national asset to advance prostate cancer research – the Australian Prostate Cancer BioResource.

This national tissue bank is supplied by men who agree to donate their prostate tissue when they undergo a radical prostatectomy. This bank, with 4 collection nodes in Adelaide, Brisbane, Melbourne and Sydney, provides scientists with much-needed access to prostate cancer tissue samples, which are critical to their studies to understand prostate cancer and test potential new therapies.

An absolute minimum period of 5 years clinical follow up data after surgery for every prostate cancer tissue collected is the internationally agreed definition for the cut-off point in determining whether patient treatment has been successful or not. Thus for the prostate cancer tissue bank to be of value to the research community, a collection period of 10 years is required. Even greater value is achieved through longer collection periods of 10-20 years, due to the increased significance of larger cohort numbers.

The initial 5 years funding to establish the tissue bank was obtained through a NHMRC Enabling Grant, which is serviced by four of the key prostate cancer groups around the country, along with supporting funds provided by their institutions, Andrology Australia and private pathology laboratories, such as TissuePath Pty Ltd.

This national tissue bank is now recognized internationally as a highly valuable resource, and access to samples in this tissue bank highly sought after by international investigators. This is because cohorts included in the Australian bank differ to those in the US, where patient treatment is more aggressive, and the banks contain a higher proportion of lower grade tumours. This allows Australia to participate equally in collaborations with international organizations, e.g. the Australian – Canadian Prostate Cancer Research Alliance, as it has a unique resource to bring to the collaboration.

Now that the establishment phase has been successfully completed, the key question is how best to fund the ongoing maintenance, management and utilization of the tissue bank. Whilst individual state governments have come up with various models of developing tissue banks for all cancers, prostate cancer researchers were organized before many of the initiatives commenced, and had already progressed to a national focus. **I strongly believe that maintaining this national approach to coordination of prostate cancer tissue banks will deliver the optimum outcome**, by ensuring:

- the most powerful resource for researchers, by capturing all prostate cancer patients in Australia in a single accessible entity,
- the most efficient use of funding through avoidance of duplication,
- the best pathway for translating research through to improved health outcomes for men.
- maximum impact in international interactions through the value of the resource, enabling Australia to retain a leadership in prostate cancer research internationally.

Significant investments have been made recently in State-based translational research centres, each of which has provided a valuable resource. However, it does

not make sense for management of prostate tissue banking to revert back to isolated state-based activities. The best of both worlds can be achieved by coordination of state-based tissue banks through a national entity. This is currently done effectively by the Australian Prostate Cancer BioResource, managed by Prof Judith Clements. This coordination can be achieved effectively as a virtual grouping, connecting all state based banks to one central headquarters. This national organization can be supported via existing NHMRC funding, as is currently provided to the Australian Prostate Cancer BioResource. This needs to be expanded to include any additional state-based entities. This grouping will require a high level of informatics to coordinate the outcome, which is within the capabilities of the current national biobank but would require additional funding.

RECOMMENDATION 1:
Ongoing funding should be provided to ensure that prostate cancer tissue banks remain coordinated at a national level. Additional funding should be provided to capture all state-based prostate banking organizations, regardless of their own specific source of primary funding

(ii) Coordination of funding from State and Federal Programs

There are important and distinct roles that are contributed by organizations involved in Men's Health at both the state and Federal level. A positive example of this has been our interaction with the Australian Prostate Cancer Collaboration, and Prostate Cancer Foundation of Australia (PCFA) at the national level, and the Victorian Prostate Cancer Research Consortium (VPCRC) at the state level. The PCFA has provided a strong leadership role by providing a centralized funding scheme for prostate cancer researchers and bringing them together at key events, also in increasing community awareness, and providing patient support and advocacy. The APCC has been pivotal in ensuring the optimal development of infrastructure - i.e. the national tissue bank, and in development of educational material. The VPCRC provides a complementary role at the State level, assisting in attraction of funding from philanthropic and other investment sources, and maintaining close working relationships to build networks between local researchers. These organizations have complementary focus areas, rather than duplication of activities, and hence add value in stimulation of research networks at the State and National levels.

RECOMMENDATION 2:
The timing of funding for programs at the Federal and State levels should be coordinated over multiple years to ensure continuity. For example, ongoing funding for the Victorian Prostate Cancer Research Consortium is desirable.

2. Promotion of integration of basic research, translational activities, clinical involvement and public education.

Whilst the terms of reference of the enquiry make specific note of the *levels* of funding provided for men's health, attention also needs to be given to *how* the funding schemes are implemented, as the metrics and criteria chosen by funding agencies will also have a strong influence on which areas are most actively pursued, based on rewards-driven behaviour.

(i) Funding metrics should include and reward involvement in Public Education and Translational Research.

Research leaders and institutes are able to play an important leadership role in contributing to public awareness campaigns in Men's Health and in the training and development of clinical practitioners. This should be supported and actively encouraged, as it ensures that the latest advances in the field are passed through to clinical care as quickly as possible, and ensures that the community has access to current, high quality information.

There is considerable public demand for this, as I am frequently invited by organizations such as Rotary Clubs, Probus, and Freemasons to speak on Men's Health and prostate disease, and also contribute to TV and newspaper articles. Further opportunities to disseminate latest information to the wider community have been achieved by involvement in Andrology Australia, which provides professional and community educational programs, produces clinical guidelines and patient education information booklets, GP training material, educational programs for specific groups such as indigenous men and newsletters, website information for consumers, and actively engages partner organizations to promote development of a National Men's Health policy. Further impact is achieved through collaboration with the Cochrane Centre, with its important role in the review of health services and dissemination of information to the community, service providers and policy makers (1).

However, from a funding agency perspective, such as NHMRC, it is difficult to encourage involvement by basic researchers in these types of activities.
The peer review system for grant funding for basic research is highly weighted towards the number of 'high impact' papers. This presents a problem for researchers wishing to extend their impact in health outcomes, beyond the traditional sphere of basic research, as 'high impact' is defined from a research perspective – very little weight is given to publications in journals which will have maximum impact and reach from a patient's perspective. Given the time-intensive nature of research and highly competitive aspect of grant funding, researchers are unlikely to actively pursue communication in these media if there is no recognition of value by funding agencies.

For example, one medium which has potential for high patient impact is the internet (2). E-Health is an emerging and immensely valuable method of communicating with patient consumers, especially as patients are often expected to contribute decisions regarding their treatment and disease options. The quality of information made available to patients through the internet becomes crucial, to ensure men are well-informed and have access to accurate information to enable them to not only understand their disease, but be involved in decision making. It is important therefore that schemes for funding medical research also recognize communications which are of high impact for patients, not just the traditional research audience.

RECOMMENDATION 3:
Research funding schemes should also include metrics which recognize and reward involvement of basic researchers in broader activities, including public education, infrastructure development, translation, clinical engagement and policy development.

(ii) Funding should be directed at integration of basic research and clinical delivery

As mentioned earlier, the key to success in the field of prostate cancer, as in other areas of medical research, is to find the optimum means of linking advances in basic research through to improvements in clinical care, by well focused translational research programs. An essential element of this is developing the skills in key people, and building close collaborative working relationships between leading clinicians and research teams. There is a significant hurdle in engaging clinicians at a later stage in their career, due to the lack of appeal of the lower salaries and the uncertainty of grant funding in the research domain. However, there is an enormous opportunity to improve capacity for research-active clinicians by capturing young clinical trainees and involving them in research programs at an early stage of their clinical career. A mechanism is required to fund and support initiatives such as this. For example, no funding structure currently exists for surgical fellows seeking to become involved in our urology program at CURe. Ideally a scheme would provide 1-2 years of funding support to allow surgical fellows to complete a Masters of Surgery; immersed in an established world-class research program in their chosen surgical field, with access to all the existing infrastructure and trained support staff, before resuming their surgical careers. This close collaboration of research labs with hospitals would provide a structural framework that enables easy transition of people backwards and forwards across the research and clinical systems. This would have the advantages of

- Establishing ongoing collaborative relationships between research teams and clinicians,

- Ensuring surgical fellows commence their career at the forefront of medical research in their field, because they are more likely to return once they have become established

- Providing vital clinical insights to ensure research programs are well-directed towards translational health outcomes.

RECOMMENDATION 4:
A funding scheme should be established to support involvement of young urologic surgeons-in-training in established research programs for 1-2 years.

Appendix 1 Background Information

About Prof Gail Risbridger

- Founding member of Andrology Australia and the Australian Centre for Excellence in Male Reproductive Health
- Founding member of the Executive of the Australian Prostate Cancer Collaboration
- Founding member, Australian Prostate Cancer BioResource
- Founding board member of the Freemason's Foundation Centre for Men's Health
- Director of the Centre for Urological Research, Monash Institute for Medical Research
- Associate Dean, Research Centres and Institutes, responsible for assisting the Dean in the Faculty of Medicine, Nursing and Health Sciences, with oversight of research programs and centres at Monash University
- Involvement in international prostate cancer research consortia, including the Australian – Canadian Prostate Cancer Research Alliance
- Editorial positions on international journals such as Cell and Tissue Research, Endocrinology, and Journal of Molecular Endocrinology.
- Invited reviewer of International programs and centres on prostate cancer
- Over 25 years experience as a participant in NHMRC review processes

About Prostate Diseases

The two principle conditions affecting the prostate are benign prostatic hyperplasia (BPH), and prostate cancer, both of which have inestimable impact on the quality of life for patients and their families.

The latest report on cancers diagnosed in Australia found that the highest risk of cancer for Australian men is prostate cancer, with an incidence of 1 in 9 up to 75 years and 1 in 5 from 75 – 85 years (3). In Australia, prostate cancer is the most commonly diagnosed type of cancer in men and the second most common cause of cancer deaths in men, while in America approximately 1 in 6 men over the age of 50 will be diagnosed with Prostate cancer during his lifetime (4).

BPH is the slow, progressive enlargement of the prostate and this condition often results in functional obstruction of the urethra during voiding. BPH is the most common neoplastic (abnormal cell growth) condition known to occur in aging men, with approximately 50% of men aged 51 – 60 and 90% of men aged 80+ having histological evidence of the disease (5).

Prostate cancer is an endocrine related disease and is hormonally regulated. Androgen deprivation has been an effective treatment for prostate cancer and remains the cornerstone of prostate cancer treatment to this day. However, we now

have the tools to refine and improve hormonal treatments of prostate cancer, based on an improved understanding both the adverse and beneficial roles of hormones in prostate tissue (6), which shows promise for development of new therapeutic options. BPH is a separate disease to prostate cancer, and both can occur simultaneously in the aging male prostate.

About CURe – Centre for Urological Research, Monash Institute for Medical Research

One of the key goals of our recent research at CURe is to gain a greater understanding of the role of hormones in both BPH and prostate cancer, and how this may be used to develop new tools to better detect, manage, treat and prevent prostate disease. Over the past 3 years, Monash Institute of Medical Research has attracted over $4.5M in external funding for its research on prostate and testicular disease, including approximately $2.8M in external funding for the Centre for Urological Research, with its particular focus on prostate cancer.

References

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(4) Penson, D Chan J 2007 Prostate Cancer. In: Litwin M, Ssaigal C eds. Urologic Diseases in America: National Institutes of Health
(5) Guess HA, Arrighi HM, Metter EJ, Fozard JL 1990 Cumulative prevalence of prostatism matches the autopsy prevalence of benign prostatic hyperplasia. Prostate 17: 241-246
(6) Ellem SJ, Risbridger GP 2007 Treating prostate cancer: a rationale for targeting local oestrogens. Nat Rev Cancer 7:621-627