
ROBINSON RESEARCH INSTITUTE SUBMISSION TO:

THE SA PRODUCTIVITY INQUIRY INTO HEALTH AND MEDICAL RESEARCH IN SOUTH AUSTRALIA

The Robinson Research Institute (RRI), at The University of Adelaide, is pleased to provide this submission to the Inquiry. South Australia has a strong tradition of involvement in world-leading health and medical research and is well-positioned for a continuing important role in the sector. As outlined in the information within the Issues Paper, there are significant challenges and significant opportunity, if these challenges are addressed and the sector is enabled in a strategic way.

The RRI has been operating in SA, in its current form, for 12 years but has its foundation from 5 decades of health and medical research within the themes of fertility and conception, pregnancy and birth, child and adolescent health and the early origins of health. The RRI originated from a core of medical researchers who established South Australia's world leading reputation through seminal discoveries in fertility, developmental plasticity and early developmental disorders. Today we remain at the forefront of discovery and translational research into health before birth and its impacts on all of life health outcomes.

In recent years, the reputation and funding of research in South Australia has fallen behind other Australian States. In part this is due to increased focus and investment by other State governments on underpinning the competitiveness and cooperation within their research communities. Increasing competitiveness for national funding, lack of research infrastructure (relative to some of the eastern states) and impediments for research within the SA health system, have resulted in stagnating, and in some years declining, research performance. RRI has implemented strategies to help address these challenges but is limited by University and external constraints. We very much welcome this Inquiry into SA health and medical research and will particularly welcome implementation of Inquiry recommendations to tackle barriers to health and medical research in SA, and facilitate enablers for higher performance for the sector.

This submission is focused just on a few major points that we believe have a compelling case to be addressed through the Inquiry. These are outlined below.

Protected research time for clinician researchers with consistency across networks

Attracting and enabling clinician researchers within SA is of vital importance to clinical and translational research in the state, and capacity to influence policy and practice. Currently, there are significant constraints on our clinician researchers. We strongly believe that this is a critical factor that is important for the Inquiry to consider and recommend strategies for improvement. While clinician researchers have some of their work time portioned to research, it is often an unrealistically small component and, in reality, often not respected or protected by their institution, due to clinical demands. The effectiveness of clinician researchers is compounded by other issues notably limited research space and infrastructure (particularly in hospitals), particularly basic infrastructure such as access to statisticians and epidemiologists. This largely stems from institutional cultures where research is not perceived as a high priority, and its importance to health service delivery is not well understood by health service administrators. Loss

of clinical research capacity and engagement has been a major element in the decline of Health and Medical Research in South Australia over recent years. In our view, it reflects a culture led by State Government policy and failure to value, promote and support clinician-led research.

In SA there are substantial differences in clinician workforce models and employment contracts across the state, within a university and even within each health network (such as WCHN). A uniform approach would be advantageous to enable practising SA clinician researchers to be competitive nationally and internationally, and for the attraction of new talent to SA. At present clinical service requirements for a full time clinical academic vary within the University of Adelaide teaching hospitals from 0.2 - 0.8 FTE. The benefits of providing adequate time for research to the falling number of clinician researchers in SA are broad, but particularly apply to these goals stated in the Commission Inquiry:

- 1 a. Health Service delivery research
- 2 a. Attraction of new talent
- 2 d. Access to clinical and healthcare data
- 2 e,f,g. Connectivity between universities and health networks
- 5 MRFF funding

Strategically focus on areas where SA fills a national need and offers unique research strength

SA has developed some unique health and medical research strengths. Focusing particularly on these areas of strength and focusing on strategic new and developing strengths, is important in developing any realistic plan for growth when resources are constrained. It is more effective to be strong in a defined range of research areas than trying to compete across a wide spectrum of research.

One area of strength in SA is reproductive, pregnancy and child health where our institute has a long history of expertise and now over 50 research teams working across multiple disciplines. Investment in early life health is recognised internationally as a central pillar for healthy societies, and a major opportunity to grow the health, productivity and resilience of the next generations. This is particularly relevant to Government priority for healthy children and communities, and sustainable populations, and resonates with the ambition to address health inequality and low socioeconomic status.

Over many decades our Institute has earned a place amongst the top 5 in the world in the area of reproductive medicine and science. We publish more research articles each year than many leading interstate medical research institutes (eg. the Walter and Eliza Hall Institute or the Baker IDI), so clearly we have high productivity and critical mass. We attract substantial NHMRC and industry funds (~\$20M annually), employ ~100 research staff and graduate ~30 PhD students each year. Our work is recognised internationally as world leading, with large scale investment from international agencies and companies including The Gates Foundation, Helmsley Charitable Trust, Glaxo Smith Kline, Guerbet, Ferring, etc. We regularly publish in high impact journals such as the New England Journal of Medicine, and we conduct many translational projects. We engage with and develop research projects in partnership with consumer organisations and other end-users. These are clear indicators of national leadership in our area and we believe that it is important to strategically leverage our strengths and other SA research strengths for the benefit of SA.

There are other research strengths in SA such as cancer, medical machine learning, digital technologies, and food and nutrition. We interact with all of these areas collaboratively. It would be strategically useful if our Universities and SA Health could work successfully together and recognise and redirect resources towards our distinctive strengths.

SA also has demographic characteristics important for population and early life research, and well-suited to answering important policy and practice questions. In particular, SA families have very low geographical mobility (ie rarely relocate, multi-generations in one city). RRI has experience in successfully undertaking large population-based studies that have led to changes in policy and practise that benefit our local communities, as well as Australian society more broadly. It is important to recognise the role of early life research in addressing the origins and perpetuation of health challenges related to socioeconomic disadvantage, notably high rates of obesity and related chronic conditions, in sections of the SA population. There are particular opportunities in SA to understand and help respond to these public health challenges and this research will also have national and international significance.

Developing a strong research culture improves health outcomes

Culture is an important factor in influencing behaviour and outcomes. Our experience is that there is a predominant view in some health networks that research is not central to the health system and the sole focus is on service delivery. We believe that having research firmly established as a pillar within all parts of the health system (along with service delivery and teaching) is critical to an integrated approach that provides the most benefit to the community and the state. Research improves outcomes for patients through improvements to clinical practise, application of current knowledge from emerging research, access to clinical trials and new treatments and interventions, and also through attracting high quality clinician researchers to the state.

Developing a strong research culture is an important first priority as addressing barriers and facilitating enablers to research will be more feasible and sustainable if there is a belief in the importance of and benefits that come from research. Having a strong research culture is very dependent on having leadership and clear messaging from government and health system leaders.

Maintaining up to date research infrastructure

Health and Medical Research has become a highly technological area in the past two decades since sequencing of the human genome. Application of genomics proteomics, high throughput discovery platforms and population data analysis are now essential pillars of high research productivity. Improved access and capacity for cutting edge technologies in South Australia and improved integration of basic to translational research would further elevate the production of high profile research achievements.

With SA researchers competing for national and international research funding, the value of research infrastructure cannot be overestimated. When grant panels compare applications from SA with interstate applications and the interstate applications are within a context of strong investment in research infrastructure, relative to SA, it is understandable why interstate applications are likely to succeed. In short, investment in infrastructure yields many fold returns in national funding - both project and infrastructure - and this has reinforced productivity in other states while constraining funding success in SA. Investment in equipment and infrastructure also leads to publication in higher-impact journals that expect the use of state-of-the-art equipment. With growth in technology, the importance of research infrastructure is also critical and SA needs to have infrastructure that is competitive with that of our peers in other states and in the areas of research that SA has strength and capability. Investment in research infrastructure also creates an environment where SA can attract world leading researchers.

Facilitate the recruitment of patients and collection of data and samples for research tailored to South Australia.

There are significant limitations on research due to the constraints on access to data, samples and patients for research and/or the large investments of time in order to gain access to the required

data. Our engagement with SA health consumers indicates considerable willingness for the community to engage in research, particularly when they can see the value of the outcomes. It is important that this Inquiry considers the administrative and ethical frameworks in place to manage access to patient data and ensures that appropriate privacy and ethical safeguards are in place, but that access is not unnecessarily constrained or out of step with what the community wants and needs.

Consideration of opt-out systems for routine patient data collection could be explored. This has been done in other states and countries, but needs to be done in SA in order to fully understand SA health needs and tailor health research and delivery appropriately. Ensuring ethics approval processes are streamlined and consistent between hospitals and institutions is another key area important for the Inquiry to consider and address.

Related to this is the ability to share data across multiple research teams and projects. The competitive nature of research often results in researchers or groups of researchers tightly holding important data sets which could be of increased value to the community if there were incentives and mechanisms for sharing and linking data. It is important for this to be done in a way that understands and addresses the short term and transient nature of the funding models that currently drive behaviour in this regard.

Collaboration to maximise returns on investment

While there are levels of collaboration across the three major universities and SAHMRI, institutional priorities and competitiveness often significantly constrain collaboration. SA is not large enough to sustainably support this level of competitiveness between institutions. It is important to consider strategies that combine the collective strengths across institutions to compete nationally and internationally for the benefit of SA. In the development of SAHMRI there was anticipation that SAHMRI would be a much stronger vehicle for fostering collective strengths, with greater cross-institutional engagement, than is the reality. In effect, SAHMRI is perceived as a competitor for funding, rather than facilitator for state-wide research. It will be important to consider how, through SAHMRI, or in other ways, the strengths of the major universities (and other SA research institutions) are combined to enhance the overall health and medical research strength and competitiveness of SA.

This is also true of the Adelaide Biomed City (ABC) precinct. The investments into buildings in the precinct by state and federal governments provide a significant opportunity, but we recommend that development of a precinct culture requires further leadership and engagement from the SA government. One way to assist would be to resource personnel to manage shared infrastructure and services in a core facility model, and to develop appropriate governance structures that ensure equitable access to core facilities by precinct stakeholders. Again, this approach could yield dramatic gains in discovery and translational research achievements, attracting top echelon clinician researchers, as well as increased funding returns from national and international sources.