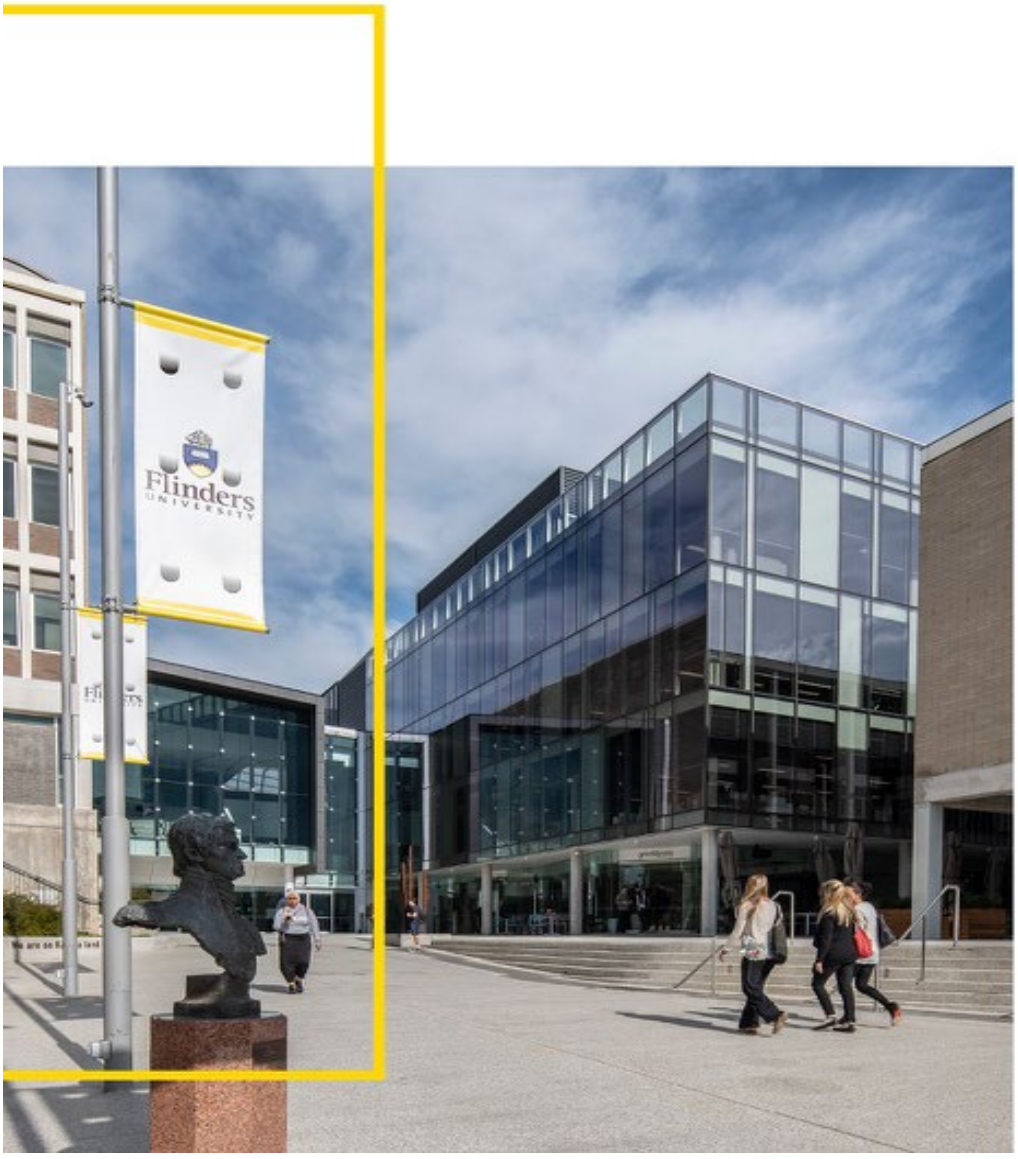
Flinders UNIVERSITY

INSPIRING ACHIEVEMENT

Flinders University Response to the SA Productivity Commission Inquiry into Health and Medical Research in South Australia – Issues Paper

May 2020



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Introduction

Flinders University was founded in 1966 and is based in Adelaide and with a significant rural and regional footprint through South Australia and the Northern Territory. Flinders has a history of innovation in health and medical research bringing together research experts, community and industry to improve health, prevent disease and combat health inequalities. Health and medical research currently contributes approximately two-thirds of the total research income to Flinders. Flinders University is also the largest provider of medical and allied health education in South Australia, education that is maintained at the highest level by its research strength in these areas.

Submission to the South Australian Productivity Commission Issues Paper: Health and Medical Research in South Australia

Flinders University has prepared this submission in response to the Issues Paper: Inquiry into Health and Medical Research in South Australian released on 13 March 2020.

A. Information request 3.1: policy environment

Division of policy responsibilities between national and state governments

There are some inconsistencies between state and federal policies, as well as differences in policies between states creating duplication in regulatory requirements, that hinder the implementation of nationally focussed research.

Importantly, there is no coordinated approach to enhancing nationally-focussed research in areas such as common data governance principles, approaches to privacy or data harmonisation.

Setting research priorities

At a national level, research priorities need to be informed by metrics related to the burden of disease, and the potential for the research to improve community health and well-being and creating greater efficiencies in the health system costs. At a State level, the same considerations apply, but consideration needs also to be given to capacity building and supporting local health network outcomes.

The key players in South Australia, the Local Health Networks, the Commission on Excellence and Innovation in Health, SA Health, the universities and SAHMRI/Health Translation SA continue to develop their own research priorities that are used by the SA government to develop a state-wide health and medical research plan. Delivery of the research plan should be supported by an investment strategy for health and medical research for South Australia.

Efficiency of regulatory arrangements and the compliance burden on researchers/institutions

There is scope for improvement, particularly in increased expediency of regulatory approvals. In the current regulatory process arrangements, there can often be significant institutional burden – both financial and human resources that present risks to securing research funding and delays to commencing research. The main barriers include:

- Site Specific Assessment (SSA) approvals;
- financial approvals;
- Approvals from SA Health human resources to employ research support staff, technical and professional staff located within hospital facilities; and
- gaining access to existing data required to inform research.

Although it is recognised that there have been recent reforms to ethics processes, there is still a need for further reform and improvements in clinical research governance processes to achieve greater

efficiencies. Delays in ethics approvals have particularly impacted on the ability to host clinical trials in South Australia, especially Phase I trials in the public health system; Bellberry is now used more regularly to enable clinical trials in the private health system. This adds to the expense of undertaking research.

A streamlining of bureaucratic processes, particularly in completing the onerous SSA forms, would reduce the compliance burden for researchers/institutions and the time required to gain ethics approval. Underpinning this, is ensuring a consistent approach with a clear rationale and guidelines regarding the information required for LHN Committees to undertake a robust review process.

We wish to highlight existing barriers coming from our experience with oncology and cardiology clinical trials. Performance and competitiveness could be significantly improved if ethics and governance approval processes underwent additional reform to become more efficient and approvals provided in a more timely manner. The significant delays that impact competitiveness of South Australian HMR could be addressed through such reform, as could the turnaround time of negotiating and executing research contracts. In addition, there are challenges in efficiently hiring staff through the health system.

Impact of South Australian Government policy initiatives over the last two decades on the state's HMR sector

The impact of State Government policy initiatives on health and medical research over the last two decades is primarily marked by three interconnected outcomes. The first is the establishment of the South Australian Health and Medical Research Institute (SAHMRI), with significant investment from the State Government. The second, and related outcome, is f reduction in investment in research and researchers in major South Australian hospitals and proposals that would impact on the capacity of SA Pathology to support research. The third is the strong focus of state government investment in the newly created North Terrace precinct which, we would argue, has impacted on other SA nodes of health and medical research, notably the Flinders University-Flinders Medical Centre-Tonsley Innovation Precinct node. While the establishment of SAHMRI was based on a strategic analysis of state health and medical research needs, a consistent co-ordinated state-wide research strategy that translates into policy and action has been missing.

B. Information request 4.1: measurement and data

The set of measures used in the discussion paper to assess HMR activity, while individually having limitations, is appropriate.

C. Information request 5.1: workforce

Strategies for attracting talented researchers

Talented health and medical researchers are attracted to research environments that offer a strong intellectual environment, outstanding research infrastructure, capability and support, and the opportunity to engage with clinical activities. Flinders University has strength in all three, in particular through the embedding of the College of Medicine and Public Health in a major teaching hospital. With these advantages, Flinders University has been successful in recently recruiting high trajectory early/mid-career researchers. Flinders' investment in people and infrastructure and access to clinical resources and clinicians through its strong relationship with SALHN are all crucial components of our attractiveness.

Barriers to clinicians participating in research

There are insufficient financial and other motivators for clinicians to undertake research or research careers. Individuals undertaking a research career will likely take a major salary drop during a PhD and thereafter. Research is effectively competing with other career opportunities and aspects such as more lucrative private medicine. There is a lack of career pathways for clinician researchers and insufficient

financial support for clinicians undertaking PhDs and subsequent academic careers. Academics will earn less than their clinical peers.

Many clinicians are overloaded and lack sufficient protected research time. More generally, hospital networks are financially straightjacketed and lack the resources to invest properly in research and clinical researchers, despite the well-known correlation between the research strength of a hospital and positive clinical outcomes. In addition, research achievements in the Health System are poorly recognised and not rewarded.

To counter these barriers, Flinders University recently introduced Practitioner Fellows positions to provide funding for clinicians to undertake research. These are fractional University research positions aimed at supporting clinicians to develop their research careers while maintaining a fractional clinical appointment.

Support from the State Government for engagement of clinicians in research would enhance such initiatives and contribute significantly to building the clinical research workforce.

Administrative assistance to deal with the paperwork associated with grant and ethics applications would be helpful for clinicians undertaking research.

Connections between SA Health and university workforces and the effect on recruitment and retention of HMR researchers

A significant proportion of Flinders University's research capacity is provided by academic status-holders who are not staff members, but gain access to the University's, research infrastructure, research support and intellectual resources.

In Health and Medical Research at Flinders, academic and professional input by academic status holders, the majority of whom work at South Australian hospitals, is key to fostering an environment in which research projects are informed by clinical experience and practice and the outcomes of the research are more likely to be translated into clinical practice. Maintaining and developing relationships with academic status holders and partners such as SA Health, particularly for Flinders through the Southern Adelaide Local Health Network, is critical to ongoing success in health and medical research.

The co-location of the Flinders University researchers and the Flinders Medical Centre enabled the establishment of integrated clinical/research/teaching environment for medicine, public health, nursing, psychology, neuroscience and allied health areas. However, this key advantage has eroded over the past two decades with SA Health and University priorities diverging.

To ensure an equitable and effective relationship for both Flinders and SA Health, and their respective HMR workforces, it is recommended that a framework is designed, to provide clarity for SA Health and University researchers in terms of well-defined mechanisms for:

- developing joint intellectual property;
- IP sharing arrangements between SA Health, Flinders and researchers;
- funding recognition;
- facilities and infrastructure;
- data access for clinical research;
- time allocation and support for research;
- recognition of the importance of clinician researchers;
- research administrative support; and
- SA Health corporate administrative support.

While there has been a decline in the numbers of senior, jointly SA Health and University funded clinical academic positions, often as a result of difficulties in matching the differing recruitment needs of universities and hospitals, there needs to be a revised approach to recruitment for the HMR workforce of the future. Combined appointments that function under a clinical academic award would benefit both the health and university sectors and drive clinical research, translational research and bench research capability guided by research active clinicians.

South Australia has a quality of life/cost of living advantage over other states, especially for early and mid-career researchers raising young families. However, a key challenge is that South Australia is generally behind in the advanced infrastructure that attracts young researchers in health and medical fields. In the life-sciences, South Australia lacks cutting edge equipment, for example: Cryo-electron microscopy (for protein structure), top of the line genome sequencers and PC3 facilities for research on causative agents of serious infectious diseases. Researchers can be required to 'wait in line' to use the equipment interstate delaying critical research and incurring costs that need to be absorbed within the research project funding envelope.

D. Information request 5.2: access to data

Accessibility and management of data is key to the development of many of the most important health and medical research projects, for example in analysing clinical outcomes, undertaking targeted clinical trials and in the critical analysis of research findings. While it is acknowledged that the appropriate use of data and ensuring privacy and security of patient data is paramount, there is a natural tension between data custodians arguably over-protecting data security at the expense of access by researchers to data whose analysis would lead to advancements in patient care and disease control.

In 2019, the Australian Academy of Science, in partnership with the Australian Academy of Health and Medical Sciences, released a statement recognising the need and obligation for Australians' health data to be used efficiently and appropriately to improve medical treatment and healthcare.

The statement (https://www.science.org.au/files/userfiles/support/position-statements/linkage-data-for-better-health-outcomes-final.pdf) recommended priority actions in the following areas (1):

1. Resolve regulatory barriers limiting timely access to existing population and health data collected at state and national levels. In this context, Australia can learn from jurisdictions such as Scotland, Canada and New Zealand. In addition, better access to private sector held data will help resolve inefficiencies.
2. Enhance medical and community understanding of and protocols for safe and ethical collection, storage, synthesis and analysis of health data
3. At Commonwealth level build upon successful State-based linkage programs such as the Public Health Research Network.
4. Develop new approaches to accessing and utilising data from novel sources, including the Internet of Things, social media and wearables.
5. Ensure continued engagement with and respect for Indigenous data sovereignty.
6. Further improve the quality and reliability of health and medical data collections.
7. Bolster efforts to generate a data-skilled clinical and research workforce through expanded professional and post-graduate training programs.

Data related bottlenecks constrain HMR

The lack of a comprehensive electronic records systems is a major issue in achieving high quality data led research projects and successes.

While SA Health is well positioned to be a leader in Australia for the use of routine health data to facilitate research, in practice, use is limited by middle level governance structures within SA Health and the LHNs. Increasing the rate of approvals, which can often be slow due to bureaucratic process, and enhancing the consistency and transparency in processes for accessing data, would add significant value and reduce timelines and costs.

A further impediment in accessing critical data is the process for direct access to SA Health patient flow data in real time through Data and Reporting Services, Provider Commissioning and Performance. While it is recognised that data integrity and using data fit for specified purposes is vital, there is an opportunity to review the levels of control and data access limitations that are currently in place. This would provide greater transparency and understanding of SA Health's data governance structures and how relevant data could be accessed in an easier manner to support the health system researcher to analyse data and suggest continuous system improvements.

E. Information request 5.3: infrastructure

Utilisation of existing SA public and private HMR infrastructure

It is our understanding that South Australian HMR infrastructure is largely well utilised. However, we note that life sciences core research facilities were well managed under the AIB Labs framework established by BioInnovation SA, a framework that no longer exists leaving a gap in the state-wide oversight and co-ordinated use of such facilities. We have seen this with the limited uptake of use of Cell Screen SA, Flinders University's recently established high throughput screening facility for drug discovery and functional genomics, despite discussions about replicating the facility in the North Terrace precinct. The state based AIB Labs initiative of Bioinnovations SA also coordinated and supported bids for infrastructure funding (see below), but has recently been closed down.

Infrastructure gaps (buildings or equipment) which constrain HMR performance

With regard to building limitations, the absence of a PC3 facility in South Australia limits our ability to research dangerous disease agents.

More generally, there is a lack of dedicated space for conducting clinical research. Phase I trials are a particular challenge due to space constraints and the perception of risk. The limited clinical trials space results from a lack of consideration of research in planning health and medical infrastructure. Where university and health providers are co-located, joint facilities would be of significant value to both parties and, importantly, to the patients.

Coordinated registry and tissue biobanking across SA is fundamental for cancer research, immunology and neuroscience. The Victorian, NSW and more recently the Queensland state governments, invest in biobanking, a crucial resource for research. Note that the NHMRC has ceased supporting biobanks, requiring alternative funding sources to be found. Adelaide is well placed to capitalise on a surge in biobanking capability. This will require investment and integration with SA Pathology services.

Suggestions of key infrastructure equipment gaps that impact on capability to undertake HMR, include:

- Cutting edge genomics sequencers (e.g. Illumina NovaSeq), although this should be addressed by the recently established South Australian Genomics Centre supported by additional bioinformaticians.

- Cryo-electron microscopy (and a team with relevant expertise).
- Consolidated high performance computing and data storage and management. The disestablishment of eResearchSA has created performance-limiting difficulties.

We wish to emphasise the important role of local SA Pathology nodes in supporting research. A key example relates to Haematology trials. There is currently a significant competitive advantage at Flinders in carrying out clinical trials in this area due to its excellent international standing. Growth could be realised if South Australia can capitalise on working with clinicians to draw in pharma sponsorship. This has been shown through the Flinders haematology unit, which has been very successful with molecular testing in Chronic Lymphocytic Leukaemia and in clinical trials. However, as Haematology is strongly linked to SA Pathology, the downsizing changes to SA Pathology over recent years and continued plans to reduce local site activity and the capacity to support research will have a significant future impact on both productivity and competitiveness, making South Australia less attractive for pharmaceutical companies.

Role of precincts, neighbourhoods and physical proximity in promoting collaboration

While many successful researchers will seek out and achieve successful collaboration regardless of geography, research precincts play a crucial role in building capability through attracting high performing researchers, promoting collaboration between researchers, linking HMR researchers to the clinic and developing collaborative links with industry. The co-location of research and clinical environments is seen by many clinicians and researchers as important for clinical research as it facilitates optimal engagement, access to patients, clinicians, pathology services, and translational pathways. While the focus of State Government investment over recent years, in response to the Shine-Young report, has been on developments within the CBD, it is crucial to recognise the strength and importance of clinical, research and industry connectedness of Flinders University, Flinders Medical Centre and the Tonsley Innovation Precinct and its role in educating the majority of medical and allied health students in South Australia.

While the researcher-clinician nexus of this health and medical research node is crucial, the connection between clinicians, biomedical engineers and, particularly, SMEs in South Australia across this node is also of immense importance, not only to healthcare but also for the health of high-technology industries and manufacturing within the state. The Medical Devices Development Program (MDPP), which has been strongly supported by the SA Government and sits within the Tonsley Innovation Precinct, continues to provide a mechanism to develop proof of concept, prototyping, clinical evaluation and commercialisation planning of medical devices that benefit the community, local industry, entrepreneurs and small to medium-sized enterprises (SMEs). The MDPP is currently being expanded to include other Australian states, placing South Australia as the lead agent in positioning Australia as a global leader in the growing medical devices market.

F. Information request 5.4: collaboration

As highlighted by the issues paper, collaboration between researchers, industry and government, as well as multi-site projects, can provide an increase in project success and effectiveness, as well as increased sector productivity and knowledge exchange. In addition, research collaboration can be a significant contributor to grant success and income generation for research. Collaboration lends weight and authenticity to grant applications and is seen very positively by funders and assessors during the peer review process

Research collaboration not only requires leadership from research leaders in research institutions, but also a commitment to research and translation within corporates, SMEs and state government agencies. Productive collaborations require commitment of areas such as HR, Finance and IT/data access in the various institutions to prioritise research partnerships.

SA Health and the LHN CEOs, as well as universities, have all stated that they are committed to increasing productivity in HMR. Yet, this often fails to translate into internal operational corporate units, which often lack flexibility in processes to enable collaboration. Differing priorities is also a challenge. Key University and SAHMRI metrics are based on research income, high-quality publications and research impact whereas SA Health and industry have budget, economic and productivity goals, with research understandably considered a lesser organisational objective.

Steps to enhance collaboration among research institutions, including universities, and between research institutions and industry

There are opportunities to increase collaboration across the SA health and medical research ecosystem but there are also key success stories that can be held up as exemplars of the benefits that successful research collaborations can deliver. Health Translation SA is working to facilitate collaboration across the state and build collaborations that are nationally competitive. It is important to ensure that all HTSA partners benefit in order to counter the perception held by some Flinders researchers that SAHMRI and Adelaide Biomed City is the focus due to geographic proximity.

A key pathway to support the development of partnerships in HMR is more facilitated networking and State Government led working groups across SA, which would help foster collaboration across the state from a range of health sector participants. The HSTA - MRFF working Group comprising Health Translation SA, the University of Adelaide, Flinders University, the University of South Australia, SAHMRI and the Department of Innovation and Skills has started to achieve this. For example, in October of last year over 150 people attended the inaugural MRFF Information Session presented by the Group.

G. Information request 5.5: funding

South Australian success rates in attracting funding and investment in HMR research are influenced by the calibre of the researchers, the strength of our collaborations and the facilities available at the South Australian universities/MRI's to undertake projects. Therefore, it is critical that there is the ability to attract and retain world class researchers within South Australia and to promote successful collaboration across the health and medical sector, both within the state, nationally and globally.

South Australia is limited by scale and, therefore, feasibility can be an issue. As highlighted in the above section (Information Request 5.4: collaboration) due to the comparatively small size of South Australia the need to ensure impactful research, collaboration across the state and with a range of stakeholders, is required. Currently, there is a no obvious pathway for researchers and clinicians, and health service executives to agree to deliver translational research in an efficient and effective manner. Therefore, clear decision frameworks for collaboration, as well as a targeted state based research strategy, that is boosted by a financial investment pool underwritten by the South Australian Government and industry, would be valuable to ensure that South Australian HMR is able to leverage its research capability and knowledge base and attract additional research revenue from the Federal Government and international funding sources.

Role the SA Government played in assisting access Australian Government funding

We suggest that the SA Government develops, within SA Health, a clear focus of responsibility for policy improvement and coordination and development of health and medical research across the state. The role of SA Chief Scientist has been crucial in this regard through support, for example, for NCRIS research infrastructure bids, but the positioning of that role in the Department of Innovation and Skills limits the potential impact on health and medical research policy and research.

In addition and notwithstanding the SA Government's crucial support of the Beat Cancer initiative, the lack of State Government funded competitive schemes supporting HMR research is also a limitation. This contrasts with other States, as the following examples highlight:

- In NSW, through the Office of Health and Medical Research, the Medical Research Support Program is the major source of infrastructure funding for eligible independent medical research institutes across NSW. The program provides support for the indirect costs of research based on success in competitive NHMRC grant schemes. They also provide a range of other grants for the state.

- In Victoria, as part of their Health and Medical Research Strategy, the Victorian Medical Research Acceleration Fund provides matched funding for the translation of early stage health and medical research into health and economic outcomes. It is a competitive program designed to leverage funding from philanthropic, industry and international sources. Applications are accepted from collaborations or partnerships between health services, industry, universities and medical research institutes, with a focus on early research and translation.

- In WA, a Bill was passed in 2019 to allow the interest earned from the WA Future Fund to be reinvested into health and medical research. This funding boost will also ensure that WA does not lose potential innovation and commercialisation opportunities stemming from local research discoveries and innovative practices.

H. Information request 5.6: translation of research

Potential to increase the quantity and quality of clinical trials conducted in SA

There is an opportunity to position South Australia as a clinical trials centre of excellence. It is important that South Australia reflects and looks to improve on other successful practices in the eastern states and internationally. A key example is the Victorian Comprehensive Cancer Centre which has oversight of cancer clinical trials and provides the ability to determine directions of research and respond rapidly to emerging areas and take national leadership e.g. National Centre for Cellular Immunotherapy at the Peter MacCallum Cancer Centre. A similar approach in South Australia could support a growth in clinical trials.

An increase in the quantity and quality of clinical trials could be realised in the short term and positioned for long term and sustainable success, if key barriers can be overcome/minimised. The requirements have been discussed above, but include dedicated trials space, clinician time and allocation of resources. With this initial investment, trials activity should become self-funding in a relatively short period of time. Phase I clinical trials capacity is an immediate opportunity that could be realised. In this respect we note the establishment of a private oncology trials unit at Flinders Private Hospital to address the need for Phase I capacity.

Opportunities to increase commercialisation of HMR in SA

Flinders University, through the Tonsley Innovation Precinct, is a key contributor to the commercialisation and entrepreneurial ecosystem in South Australia through Flinders Commercial, the New Ventures Institute and, as discussed above, the Flinders-based Medical Device Partnering Program. Flinders Commercial leverages key industry relationships, global industry connections through South Australian and Australian Government offices in overseas countries and exploits key networking opportunities, particularly international and Australian conferences and targeted workshops. This results in an increase in their overall capacity and ability to undertake targeted industry engagement and to efficiently commercialise technology. The New Ventures Institute (NVI)

operates from the Tonsley Innovation District, and provides individuals and businesses with training, mentoring and connections to develop and pursue their business idea. The NVI have supported the creation of more than 300 start-ups; trained 700+ entrepreneurs and taught nearly 3,000 students.

Importantly, the SA Government provides funding support through the South Australian Research, Commercialisation and Startup Fund which has been designed to support a wide range of stakeholders that are involved in the development and commercialisation of research and to accelerate the process of commercialisation. Opportunities to increase commercialisation require addressing some of the barriers to commercialisation, discussed in the next section.

Barriers to commercialisation of HMR

The majority of the current State and Federal commercialisation grants (for example Accelerating Commercialisation and Research and Commercialisation Start Up Fund) require matching 1:1 funding. Unfortunately, and particularly, in the current economic environment, this may prove a significant financial barrier for South Australian universities or Medical Research Institutes. While there may be an established Proof of Concept there may not be available internal funds to provide matching funding.

Many HMR researchers, particularly those who are employed in the South Australian Health System, have limited capacity to be able to engage in commercialisation activities due to their research, teaching and clinical loads.

There are significant barriers to the commercialisation of research that has been conducted by academic status holders who are employed by SA Health and conduct research. Currently, there is limited to no coordination between SA Health and universities to facilitate commercialisation to benefit South Australia. Due to the differences in organisational drivers, negotiations with LHNs to establish intellectual property and commercialisation rights have proved to be difficult and protracted. This contrasts with an earlier agreement between Flinders University and SALHN that the University would manage IP generated by SALHN employees. Unfortunately, this leads to lengthy delays in achieving successful negotiations and loss of funding and opportunity for the researchers, universities, LHNs and the South Australian economy. It is a considerable concern and a major barrier to commercialising HMR in the state, especially when many commercial projects being developed are jointly owned by LHNs and universities.

We recommend that commercialisation practices involving LHNs and universities be reviewed to determine how best to progress commercialisation activities, including considering risk appetite, reasonable allocation of IP ownership, managing conflicts of interest and providing support for commercialisation activities.

The desired outcome of such an examination is an enhanced and more collaborative relationship between the LHNs and universities to facilitate more efficient and effective commercialisation, recognising that universities have significant expertise needed to commercialise research with a clear pathway for commercialisation where LHNs and universities have jointly developed and own the IP. Development of a standard template for IP agreements, IP clauses within research agreements and commercialisation agreements that can be used between LHNs, universities and industry partners that are fair to all parties, written in lay terms and encourage innovation and facilitate more efficient commercialisation of jointly owned IP is also desirable.

We also note the negative impact of the demise of BioInnovation SA on access to funds that support provisional patents and support for commercialisation/Venture Capital support at the National Phase patent stage.

I. Information request 5.7: competitive advantage – location

The strength of our universities and research institutions, substantial research infrastructure and reasonable cost of living should make South Australia an attractive place for HMR. However, the gap in relative investment in HMR between South Australia and the eastern states is growing, limiting our competitiveness. Nonetheless, addressing issues raised in our response would constitute a major contribution to addressing the gap.

J. Information request 5.8: competitive advantage –population

South Australia has a comparatively small but diverse population. The population size creates both advantages (ability to coordinate studies across SA and harmonise activity between institutions) and disadvantages (small cohorts for studying rare diseases). With regard to the second of these, we should note that leadership from SA is still possible e.g. a worldwide vitroneal lymphoma registry is run from Flinders University. In addition, Flinders University's strong presence in the central Australian corridor is an advantage for specific research areas.

K. Information request 5.9: competitive advantage – areas and phases of research

Examples of HMR research excellence at Flinders University:

- Precision oncology, cancer population screening and cancer survivorship
- Cardiovascular research
- Gastrointestinal physiology and disease
- Microbiome research
- Infectious disease genomics
- Gut neurophysiology
- Ophthalmology
- Non coding RNA & health
- Pharmacology
- Biomedical engineering
- Sleep health
- Palliative care

L. Information request 5.10: competitive advantage –clinical trials

Flinders University recognises the importance of clinical trials to South Australia, to the health system and to patients and clinicians. As a result, the University is investing $4 million over five years to establish the health data and informatics platform and clinical trials infrastructure to support large scale trials across Flinders and SA, of the scale described below.

This initiative will build the digital environment for the routine assessment of patient preference, clinical practice, patient outcome and system performance with expanded use of electronic records and reporting systems, links to primary care and patient-derived smartphone and personal electronic linkages, enabling large scale trials. It will also enhance the capacity for clinical trialists and data scientists to facilitate the translation and implementation of health information into improved health service delivery and outcomes for the consumer.

In addition to this initiative, a number of SA Health clinical trial units work closely with Flinders University. Cancer Pharma trials are performed almost exclusively through the health system. Investigator-initiated and some cooperative trial groups studies are associated with the University.

M. Information request 5.10: competitive advantage - collaboration and precincts

We refer to our discussion of collaboration and precincts above

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