8 October 2020

Dr Matthew Butlin
Chair and CEO
SA Productivity Commission

By email: sapc@sa.gov.au

Dear Dr Butlin,

In addition to the HTSA response to the draft report (co-authored by Wendy Keech, CEO and myself as chair), as well as verbal contributions made in workshops, I offer the following feedback on the draft report.

By way of overall comments, I support the report's findings on the state's performance in research funding and I agree in large part with the major recommendations. Clearly there is additional work to be done to implement the recommendations, but the report lays a solid foundation.

Specific feedback is as follows:

Embedding research in the state's health services

I agree strongly with the major recommendation of the report - "*The South Australian Government make achieving excellent clinically based health and medical research with translation impact a priority for SA Health*".

In addition to the proposed changes in SA Health leadership and operations, a critical feature for successful implementation of this recommendation will be effective collaboration and networks with external research organisations, industry and other stakeholders.

In essence there is a need to establish a thriving Community of Practice for health and medical research (HMR) in SA. As articulated in the HTSA submission, **HTSA is ideally positioned to be the key driver through its role as a <u>statewide</u> facilitator of HMR collaboration and translation**.

Need for additional funding in HMR

I would challenge the view (page 14):
"The Commission considers the case for new money to be invested in HMR – argued for by many inquiry participants – has not been made. Instead the focus needs to be on freeing resources through efficiencies by eliminating duplication, cutting complexity and creating additional dedicated time for clinician research."

This seems inconsistent with the SAPC own observations (page 16) that:
"Over the past two decades the competition from other jurisdictions for competitive national grant funding from universities outside South Australia became much tougher. This competition reflected significant investments in people (especially world-class research leadership), infrastructure and facilities, especially in Victoria. Those investments in other jurisdictions were made by universities, state health systems, and state and national governments, among others. South Australian institutions also made significant investments, although not to the same degree and with a focus on buildings not people."

I agree that funding support from the SA Government is not the main factor in the state's declining HMR performance, but I would argue that a carefully constructed funding program to address state priorities through large-scale, outcome driven research consortia is essential to change research culture and achieve the desired outcomes. As emphasised in the just released SA EXCITE Strategic Plan, driven by the SA Chief

Scientist: "*There is a need to build Scalable Excellence to realise the high quality of South Australia's STEMM research*."

I have communicated separately with the SAPC regarding the Research Consortium Program (RCP) that I introduced as the former SA Chief Scientist. **I recommend the reintroduction of a similar program to provide the incentives for SA researchers to develop nationally competitive projects at sufficient scale to achieve the required economic and social benefits.** This concept is entirely consistent with the SA EXCITE Strategic Plan.

I also support the SA EXCITE Strategic Plan's recommendation to establish a program of 'Intermediaries' that will connect researchers with end-users and other stakeholders required to build research capability and translation. It is pleasing to see the SA Government has committed funding to this program in the launch of the EXCITE Strategic Plan.

In addition to the economic and social benefits, well-structured large-scale projects are much more likely to have the necessary resilience to continue after the initial program funding is completed. The Cell Therapy Manufacturing CRC is such an example. The CRC has established two high-growth spin-out companies that are continuing much of the CRC's research program in collaboration with local universities and other organisations. In addition, CTM CRC itself is continuing as a not-for-profit organisation – CureCell – to bring to Australia curative immune therapies for childhood cancer developed in the USA. CureCell is also scoping a new national research initiative to provide Australian immune therapy companies with new tools to optimise the manufacture of their CAR-T therapies.

A further important benefit of this type of initiative is the opportunity for training and employment of early and mid-career researchers. Both Carina and TekCyte have and will continue to provide funding for promising researchers from their collaborating universities, through a combination of direct employment in the companies and research contracts with the universities. This is an important strategy to address the current career limitations for early and mid-career HMR researchers in South Australia and to help retain future research leaders in the state (a priority identified in section 6.3 of the report). This is also an area that has been given high priority in the SA EXCITE strategic plan.

SAHMRI strategic focus

The report gives considerable attention to the role that SAHMRI has played in the state's HMR sector, and its focus going forward.

Consistent with the HTSA response to the report, I support an ongoing role for SAHMRI similar to the SAPC's third option. I agree with the SAPC that there is "*an inherent conflict between the pursuit of excellence and a commitment to collaboration among local universities as an objective in itself*".

Options 1 or 2 would, in my view, be counter-productive:

- Option 1 to incorporate SAHMRI into an LHN with close attachment to the Royal Adelaide Hospital would impose unhelpful bureaucratic impositions associated with being a government entity. Independence is crucial to ensure SAHMRI can focus on excellence at a global scale.
- Option 2 to incorporate SAHMRI into one of the state's CBD-based public universities would draw SAHMRI into the unproductive competitive environment that occurs between universities and would remove the real benefits of establishing an independent institute that were part of the original vision.

Option 3 is to modify SAHMRI's current structure, purpose, constitution, governance and membership to enable a stronger alignment of member interests in HMR.

I would propose an 'Option 3.1' in which SAHMRI's primary focus is on achieving global excellence in research and translation. Collaboration with member organisations and other entities should be priorities on the basis of the capacity to achieve excellence in research and translation, not as an objective in itself.

Under this model:

- SAHMRI would focus on a limited number of fields in which it can achieve global top-ranking
- The strategic focus and integration of SAHMRI would be strongest with the RAH and universities in the Adelaide BioMed City precinct because of the importance of physical co-location in research collaborations
- Effective commercialisation support should be put in place for the SAHMRI research programs – possibly through AusHealth
- Regardless of the membership of SAHMRI, there should be a fully independent, skills-based board to drive its strategic direction and international competitiveness
- The broader collaboration remit that was originally flagged for SAHMRI can be undertaken by HTSA, a nationally accredited Advance Health Research Translation Centre, which has a primary purpose to facilitate statewide collaboration and research translation in response to health service challenges and statewide capacity building needs.

Under this model, South Australia can fulfil the dual ambitions of the original plan for SAHMRI without compromising SAHMRI's capacity to achieve a global reputation for research excellence.

Commercialisation

Intellectual property and commercialisation are in my opinion the least well-developed components of the report. This is perhaps not surprising given the breadth of issues the SAPC has been asked to address, and the complexity of commercialisation challenges.

However, I consider commercialisation of the state's HMR to be a key element in achieving effective research translation. For this reason, **I agree with the recommendation (page 196) "*The Commission notes the subject matter of this chapter is very large and would itself justify a separate inquiry***."

In regard to the findings in the draft report, I offer the following:

There appears to be a premise that a HMR-related company will need to undertake clinical trials to achieve success (eg statement on page 207 that "*HMR commercialisation requires funding at three key stages: preclinical, early clinical and late clinical*"). However, commercial success does not necessarily require a biotech company to undertake the expensive clinical development itself. For example, I am on the board of three biotech companies (Carina, TekCyte and Biosensis), none of which has clinical trials as part of its business strategy:

- Carina is positioning itself as a platform CAR-T technology developer that will sell/license IP after pre-clinical validation. Sale of the first IP asset has already occurred – only 4 years after its establishment.
- TekCyte's business model is to coat medical implants for its commercial partners, with revenues generated from a combination of coating charges, exclusivity fees and royalties. All clinical trials will be undertaken by the commercial partner. Having only been established in 2018, TekCyte is already generating commercial revenues of about $500K pa and plans to achieve profitability within 5 years.
- Biosensis develops and markets ELISA kits for the research market, with no requirement for clinical trials.
- As an additional example, TGR BioSciencesb(which I founded in 2001), has grown to be a highly successful and profitable company manufacturing and selling assay kits for cell signalling pathway

analysis. TGR was recently acquired by Sygnis AG (Germany) for €10.1 million, and subsequently by global life sciences company, Abcam plc (UK).

These examples illustrate the diversity of business models that can be applied by successful, high-growth biotech companies, without the need to fund cost-prohibitive clinical trials.

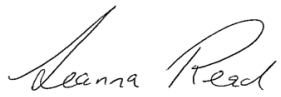
Moreover, the spin-out of both TekCyte and Carina within the space of two years from a single CRC would suggest that South Australia has considerably more commercialisation potential than the report credits. While we cannot infer this rate of commercial success could be replicated across the broad HMR sector, it would be doing the state a disservice to accept the modest expectations outlined in the report (eg page 207: "*the state could expect of the order of 15–20 licence agreements and 1–2 start-up companies to be established each year. This is a small deal flow*.")

For this reason, I recommend a separate inquiry into HMR commercialisation that would identify the barriers and impediments to effective HMR commercialisation, including:

- Removing the confusion as to which commercialisation vehicle researchers should approach, particularly those in SA Health
- Introducing commercialisation 'Intermediaries' that can help HMR scientists develop commercial opportunities and navigate the path to application
- Bringing commercial management of all SA Health entities, and possibly SAHMRI as well, under the one umbrella (probably a remodelled AusHealth)
- Establishing effective and efficient IP management processes, especially in SA Health (noting that HTSA and Brandon Capital have prepared a proposal which I support)
- Improving the operational linkages between the university commercialisation arms
- Addressing the restrictions on the capacity for SA Health employees to accept options from collaborating companies

Thank you for the opportunity to respond to the draft report. I would be very pleased to provide any further assistance as required.

Sincerely



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