Submission

National Research Infrastructure Capability Issues Paper July 2016

Response from Blamey Saunders hears, an Australian medical device SME:

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General comments: The document needs to explicitly acknowledge that a large part of the research community is based in the private sector, in industry, in small business, in private practice, etc. The document reads to me as though there is a research community and a separate general community of research users rather than researchers embedded in a wider community.

Questions

Question 1: Are there other capability areas that should be considered?

- Translational research capability is embedded in-situ within industry, hospitals, small business, etc. Thus non-academic resources and capabilities may be utilised and the translational research and development process will be faster and more effective.

- Business incubation capability for the rapid and cost-effective commercialisation of new ideas exists in pockets. Recognition and expansion of this rather than the predominant "let's start from scratch with a venture capital investment" approach, may be more sustainable and lead to greater skills transfer.

Question 2: Are these governance characteristics appropriate and are there other factors that should be considered for optimal governance for national research infrastructure.

- The focus on benefits and outcomes needs to be clear about who it is that benefits. Benefits should not be just for "the research community", but the community in general. The evaluation of performance against these objectives and setting of priorities should not be self-regulated by the academic research community.

Question 3: Should national research infrastructure investment assist with access to international facilities?

- A cautious "Yes" to this question. If International access to overseas facilities is needed in the short term, then it's a time to evaluate whether an Australian need has been identified.

- Australia could also support access to Australian research infrastructure by international researchers. Great marketing opportunity.

Question 4: What are the conditions or scenarios where access to international facilities should be prioritised over developing national facilities?

- If a world-leading international facility exists, it is probably more cost-effective to send researchers there than to develop a similar national facility to deliver similar benefits and outcomes. However, we should consider whether it is better to build that capability in Australia, in which case this must be a long term commitment

Question 5: Should research workforce skills be considered a research infrastructure issue?

- No, this is part of a larger infrastructure issue for the whole community. The training of all professionals should include a research component and strong problem solving skills. Refer to the recent ACOLA report:

  10. Securing Australia's Future - Skills and capabilities for Australian enterprise innovation) "Organisations need the competencies to source and retain this skills mix and position themselves as valuable partners in the innovation ecosystem."

Question 6: How can national research infrastructure assist in training and skills development?

- National research facilities can provide organisations within which training and skills development can take place, particularly focussed on real world problems. This could include but should not be limited to University degrees. Academic researchers need career development and incentives to concisely answer industry questions.   There is a good working example in the Swinburne University Biomedical Devices Training Scheme (BioReactor), with which our company partners.

Question 7: What responsibility should research institutions have in supporting the development of infrastructure ready researchers and technical specialists?

- Research Institutions need to do this to ensure their own sustainability.

- It's important that researchers are prepared to use their expertise and access to solve industry problems. This has generally not been our experienced. However we are impressed with the Biomedical Devices training program at Swinburne University, and currently host two PhD students from this program. It is well run and has attracted strong students.

Question 8: What principles should be applied for access to national research infrastructure, and are there situations when these should not apply?

- It is not clear to us why the criteria are not purely "merit-based" for industry as well as public sector. If "merit" means delivering high priority benefits and outcomes to the community, this would seem fairer. It is necessary to consider that public funding comes from income tax including taxes from industry and business. Why should industry pay twice when others only pay once?

- The principles of access should be about making it easy for short term projects to be completed by trained researchers. It is not useful to industry for potential research partners to turn a three-month timeline into a three-year timeline. In my experience this flexibility is lacking.

Question 9: What should the criteria and funding arrangements for defunding or decommissioning look like?

- The statement that "By taking the decision to decommission a research infrastructure facility, the Australian Government is stating that activity is no longer wanted." This is a very negative view. The goal should be to achieve the goals of the research facility and translate the research into practice, potentially by transferring staff, equipment and knowhow out of the research phase into the application phase. To call this defunding or decommissioning is just plain demotivating.

Question 10: What financing models should the Government consider to support investment in national research infrastructure?

- Consider private ownership and venture capital, or private capital investment (for example from health funds or superannuation funds for health-related research facilities).

Question 11: When should capabilities be expected to address standard and accreditation requirements?

- Always

Question 12: Are there international or global models that represent best practice for national research infrastructure that could be considered?

- Regional concentrations of companies and universities grow to have a national influence, attracting people and ideas from around the country (e.g. the Boston model)

Question 13: In considering whole of life investment including decommissioning or defunding for national research infrastructure are there examples domestic or international that should be examined?

- Evolutionary models might be more constructive than whole of life models. For example some Universities or Departments within a University might be considered an evolutionary model for a research facility with no finite or planned lifetime.

Question 14: Are there alternative financing options, including international models that the Government could consider to support investment in national research infrastructure?

- A cluster of SMEs or start-ups sharing privately owned research infrastructure could be considered.

Health and Medical Sciences

Question 15: Are the identified emerging directions and research infrastructure capabilities for Health and Medical Sciences right? Are there any missing or additional needed?

There is a paramount need to deliver healthcare more efficiently, and implementations of digital health, and the internet of things have a major role in managing chronic disease. The infrastructure is predominantly in the private sector, but there are few opportunities to work with government to explore this. For example, in the hearing aid sector, hearing aids are sourced by Government tender. As we move to digital health there is an opportunity to offer an improved products and services mix. A means of recognising the contribution of the private sector in research, and enabling a dialogue in health would be advantageous.

About Blamey Saunders hears

It is well established that hearing loss should be treated with hearing aids as soon as possible in order to avoid more distressing, and costly, downstream problems such as mental health or cognitive problems. Despite this knowledge 75% of people with hearing difficulties do not get hearing aids. Access to hearing help has been improved by Blamey Saunders hears who have developed a tiered approach to hearing services, which is scalable and reduces the need for costly infrastructure. The model allows people to be self-managed or to have full clinical service support with a range of low touch services in between. This model builds on many years of research involving the University of Melbourne and the Bionic Ear Institute, who also incubated the company in early stages. Whilst this model is fully private, we are able to supply premium quality hearing aids at a price that is less than most hearing aid providers charge for OHS Voucher subsidised hearing aids. The model is a digital health model which provides the structure to move from one level of care (e.g. tele-audiology) to another (e.g Tertiary level audiology clinic, with skilled diagnostic audiologists):

Telehealth and hearing aids

In health care in particular, it's important to foster a system and an environment that enables humane and patient-centric care. Systems should leave both patients and care administrators empowered, dignity always intact.

Blamey Saunders hears operates partly on a telehealth model (we call it 'tele audiology') that saves users thousands of dollars with centralised expert audiology and technical support. It allows us to assist users all over Australia, and indeed the world, from wherever they have a phone or internet connection.

Our highly trained and knowledgeable support team (comprising hearing experts and technicians) provide users with unlimited internet and telecommunications based assistance, assessment and rehabilitation. The customer service team can view a user's hearing aid adjustment settings and will contact the client if they observe setting changes that suggest an underlying or serious medical condition. We advise all new and potential clients to see a GP first in order to avoid masking a hearing loss that may be due to an underlying medical condition. We recognise the GP as the primary care provider.   We receive lovely letters from clients who are blown away by the caring, passionate telehealth support team and system that we are proud to have put together. But finding and training this team has been critical, as described in the recent ACOLA report.

Blamey Saunders hears has spent substantial time and resources finding and developing the right employees. This has involved finding and working very closely with an HR partner and developing tailored learning and development programs to achieve the level of service excellence and knowledge base required. We have not found this in the audiology graduates in Australia.

Blamey Saunders has consistently applied the recent ACOLA finding "Innovation requires skills mixing across teams and across organisations"

Blamey Saunders hears' hearing aids use technology developed as part of the bionic ear program, and incorporate many other top quality features, including wind noise reduction. There are 64 channels of comfortable sound, developed in Australia, and implemented on the world's most advanced DSP chip. Clients from all over the world are supported by a comprehensive tele-health support model unique to Blamey Saunders hears, operated by a team of 30 people. The company estimates that its full service clinics are about 20 times more efficient than other audiology clinics and provide premium hearing aids for about 1/3rd of the typical price.

The client journey is to

1. First take the clinically validated Speech Perception Test on line, or with a participating partner organisation: http://apps.blameysaunders.com.au/clinic/wordtest/

   The test results tell the client which sounds of speech they hear well and which they miss, so it is very informative.

2. If the client decides to get hearing aids, then these are pre-programmed using the results of that test, results of which reside in the Blamey Saunders database. The hearing aids are despatched with appropriate accessories and instructions.

3. Client receives the hearing aids and further personalises them using the Australian developed and manufactured, award winning IHearYou® system, connected to a Smartphone, tablet or computer by Bluetooth.

4. Client disconnects the IHearYou® system, uses hearing aids and seeks further tele-audiology or face to face support if required.

The company has reached its current level of success by

- Benefitting from incubation with access to the facilities of the Bionics Institute
- Recruiting wisely and providing strong training
- Utilising the combined entrepreneurial, business and scientific skills of the founders
- Partnering wisely
- Building on previous experiences
- Determination and perseverance

Professor Peter Blamey is one of the most respected hearing scientists and inventors in Australia and internationally. In 2007, he received the American Academy of Audiology International Award, for significant and sustained contributions to the field of audiology and to hearing-impaired adults and children worldwide. In 2012 he was awarded the Clunies Ross medal from the Academy of Technological Science and Engineering for taking hearing aid technology from invention to commercial and clinical outcomes.

Adj. Professor Elaine Saunders is a hearing expert, audiological scientist, author, speaker and Social Entrepreneur. She is an advocate for empowering people with hearing difficulty, and as Managing Director of Blamey Saunders hears, she is able to indulge her passion for community work. Elaine is a highly regarded community speaker, Australia wide. In 2016, Elaine was awarded the Clunies Ross Medal for Entrepreneurship for her work in hearing. Elaine was initially a manager in hearing services in the NHS in the UK, and has a strong interest in the economics of hearing services delivery.