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Where to for biotech?

One of the more optimistic respondents to Research Australia's "Beyond Discovery" 2007 survey of 68 Australian biotechnology based companies commented "If the science 'sings' then the path to commercialisation is much easier."

The general picture for biotechnology in Australia is one of muted optimism, not surprising given the findings of Research Australia's survey. Well publicised stand-out stories associated with medical devices and products from companies such as Cochlear and CSL tend to stand apart from the day-to-day realities of those seeking to commercialise biomedical research. Work continues within the biotech sector and a number will break through within the near future. But with the possibility of a change in government policy and a tougher economic environment, can we expect this muted optimism to continue?

"Beyond Discovery 2007" examined the research origins and commercial experiences of 68 Australian biotechs as a follow up to a similar survey in 2004.

The survey showed that similar to 2004 a third of biotechs are at start-up or have revenues below \$2 million, with only 10% of the respondents (38% of which were listed companies) indicating profitability. Promisingly, almost half of the companies in the recent survey derived higher revenue from product sales, licensing of IP and royalties. Of those surveyed, 41% are currently exporting and 60% are planning to export in the next 12 months. While size is small, with a median of 16 employees, more than 80% of the companies surveyed have filed new patents protecting their intellectual property, and more than 50% have acquired IP from others.

In 2007, research origins in whole or in part were reported to be from private companies (44%) and/or universities (35%), compared with universities (66%) and private companies (21%) in 2004. This may be associated with the maturing of the biotech sector and an increasing ability to conduct research alone or in collaboration with third parties.

Respondents in 2007 showed less reliance on Australian Government sources such as NHMRC and ARC, and identified in-house company research (24%), private inventors (24%) and universities (21%) as the major source of funding for the original research. Over the same period funding from state governments rose from 8% to 18%.

However the on-going need for funding to drive development remains a significant hurdle, while over half have difficulty in attracting appropriate staff. There is a continued reliance on government funding support, with 65% having received Australian Government support and 40% state funding over the past three years.

So what does this mean for the future, and, in particular, in the context of a new national government?

Since the late 90s governments have increasingly recognised the importance of medical research in generating social and economic benefits. National and state governments have made major investments to support basic science R&D. Research

Australia has been an active supporter of this process, advocating assistance for new companies and new investment into health and medical research from all sources.

Though investment is long term and has a high risk profile, support for biotechnology has the capacity to generate economic benefits and transform health and wellbeing, reducing the ultimate cost on the health system - borne out recently by the development of the new cervical cancer vaccine from research conducted by Professor Ian Fraser over a decade ago.

This raises an interesting question about time and the risk tolerance of investors, whether private or government.

If the pathway to community benefit rests on successful commercialisation alone, policy makers, after significant government investment in the sector, are likely to want to see measurable and more immediate social and economic outcomes. This is particularly relevant in the context of a change of government nationally and the commitment to a major new national innovation approach that will consider biotechnology as one of many competing sectors for the innovation dollar. It is also important in a context where researchers themselves are canvassing other pathways to delivering social benefit from research investment – such as research translation (or "diffusion") directly through clinical practice rather than the commercialisation track.

The incoming government has a focus on hospital care and preventive health. This is hard to argue against when there are 2.3 million Australians with signs of chronic kidney disease, 65% who don't exercise, 22% who smoke and 13% who consume high risk amounts of alcohol, who are all likely to line up at doctors surgeries and hospitals in the not-too-distant future.

Beyond Discovery 2007 identified biotechnology as a maturing industry, increasingly able to pursue business objectives and develop collaborations and private sector relationships, but with underlying government support. The potential social and economic gains are considerable, but for how long will governments emphasise the importance of commercialisation as a means of delivering benefits rather than other competing mechanisms such as improvements in the healthcare system? Is there a risk to the further development of a vibrant and productive Australian biotech industry which is critical to driving innovation and quality within the health agenda?

The recently announced review of innovation provides a valuable opportunity to explore these questions.

**Research Australia is a non government, membership based organisation with the aim of making health and medical research a higher national priority. For more information on the "Beyond Discovery" 2007 survey visit www.researchaustralia.org*

