

and/or organisations are able to progress their application towards a real-world outcome.

Does that mean that researchers need to become experts in many new disciplines? The answer is 'no', as this is impossible – there are not enough hours in the day. Instead, we need to feel comfortable working and collaborating across boundaries, whether that is between research disciplines; between research, engineering, clinical and businesspeople; or between academia, industry and government. We have to value everyone in the ecosystem and rely upon each other's expertise in different areas. This can be daunting, but it is also incredibly exciting, as it enables us to collectively achieve far beyond our individual abilities.

The term 'translation' is especially apt, as being able to translate terminology of specialised technical research to the requirements of a patent application, regulatory affairs or an investor pitch is critical in itself. We don't all need to retrain as patent attorneys, regulatory affairs specialists or venture capitalists, but we do need to know enough to stay on the right path, avoid pitfalls, and ask the right people to help us at the right time. This is where the ecosystem comes in. There is enormous expertise out there, and the trick is knowing how to access it in a way that works for everyone involved. The problem, of course, then comes down to time and money, something researchers are always lacking.

The medical research funding system is set up on the basis of generating publications to get grants, to then generate more publications, to get more grants, et cetera. Why? Because publications are a very important way of disseminating research findings, demonstrating output from the research and obtaining peer review of the work (experts in the field critiquing the research and ensuring that it is up to standards of best practice). Publications are also easy to measure, so they become the major assessment tool for quality and quantity of research output when comparing individuals, research groups and universities.

So, why is this a problem? It isn't if, as a society, Australia is content being a world leader in generating exceptional medical research output that adds to the sum total of knowledge in the world; however, if we, as a nation, want to do more to see that exceptional research tangibly benefit society, either socially or economically, we need to support the next step, in

addition to publishing the research outcomes. And the exciting thing is that this is happening more and more.

In 2016 and 2017, MTPConnect, supported by the Australian Government Industry Growth Centres Initiative, committed funds, which were matched by the sector, to 'invest in big, bold ideas to improve the productivity, competitiveness and innovative capacity of the medical technology, biotechnology, and pharmaceutical (MTP) sector'. This has bolstered the interconnectivity of the ecosystem through the funding of initiatives such as Accelerating Australia, a national consortium of biomedical research institutions, universities, healthcare providers and companies that boost the biomedical entrepreneurship and translation of medical research through experiential entrepreneurial courses, brokerage and early-stage commercialisation support services.

Such endeavours are only possible due to the incredible generosity of professionals in the broader medtech and pharma ecosystem, from patent attorneys and tax accountants, to regulatory affairs and clinical trials specialists, to health economists and venture capitalists, to university executives and government officials, to medicinal chemists and large pharma executives. All of these people see the amazing research that is happening in Australia that struggles to cross the so-called funding valley of death, and collectively they are building a bridge.

The final piece of the puzzle is early-stage investment from those willing to take a chance on very high-risk projects that could be very financially rewarding after perhaps a decade or more of incubation, but with little guarantee of success. In many ways, this could be regarded as 'philanthropy with benefits'. What can be guaranteed is that, overall, more patients will benefit from the enormous investment in Australian medical research if greater strategic investment at this early translation stage is made, either directly through funding projects, or indirectly by upskilling our workforce, thereby fostering jobs and growth in a critical sector of our transitioning high-skill economy. 🌱



Associate Professor  
Kevin Pflieger