

Bio-Pharmaceuticals – A Pathway to Economic Growth?

Executive Summary

Report to The Researched Medicines Industry

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Project Goal

This project aims to investigate the possible contribution of the pharmaceutical industry to the development of the bio-pharmaceutical industry in New Zealand.

The economic value of the New Zealand bio-pharmaceutical industry?

Two important factors stand out (see part 1 section 1.2):

- the potential for New Zealand to make more productive use of a generally well educated labour force, and
- the strong export potential for New Zealand based on a domestic bio-pharmaceutical industry.

The bio-pharmaceutical industry is research intensive

The bio-pharmaceutical industry is totally reliant on research. The pharmaceutical industry in the United States invests in research & development (R&D) twice as much in absolute terms as any other US industry (see part 1, section 2.2). A large component of that research is basic research.¹ In Canada basic research spending by pharmaceutical companies investing in research is almost 20% of total research (see part 2&3, Appendix A.4).

An era of rapid change

The pharmaceutical industry has undergone rapid change over the past fifteen years. The changes have occurred because of the emergence of new technologies that fundamentally change the process by which researchers search for, select, and screen potential pharmaceutical candidates.

The consequences of change have been dramatic for pharmaceutical companies. Mergers and acquisitions have completely changed the face of the global industry over the past ten years (see part 1 section 3). There is an increased emphasis on partnering and alliances in delivery of R&D services, and on increased specialisation in marketing and government relations functions of large pharmaceutical companies.

The global pharmaceutical industry has a pivotal role in the development of the bio-pharmaceutical industry. The scale of global R&D in bio-pharmaceuticals suggests that smaller specialist R&D providers are becoming increasingly important. New Zealand has an opportunity to build on its existing agricultural R&D infrastructure and capitalise on this paradigm shift in R&D.

Success requires a partnership

The bio-pharmaceutical industry is based on long term relationships because of the specialised and complex products bio-pharmaceutical researchers produce for pharmaceutical companies (see part 2 section 2).

If the bio-pharmaceutical industry is to flourish in New Zealand a constructive agreement between the government, who sets the regulatory framework that determines the commercial environment, and the pharmaceutical companies, that fund a substantial part of the research, needs to be fostered.

¹ Basic research has no specific end use, therefore it has the potential to be used in a variety of different industries.

The link between commercial and R&D objectives

Undoubtedly R&D and marketing arms of the pharmaceutical business are driven by different economic factors (scientific processes versus commercial objectives). However, most OECD nations not only accept that R&D and pharmaceutical pricing are linked, they offer incentives for the right to host R&D operations of pharmaceutical companies (see case studies part 3).

Elements of a partnership

Of crucial importance to the development of the New Zealand bio-pharmaceutical industry are:

- fostering a knowledge based industry. In most OECD nations partnerships have been formed between government and pharmaceutical companies. Governments, in their efforts to promote industrial development have specifically targeted the bio-pharmaceutical industry because of its potential for export lead growth and for its potential spill-over activity.
- evidence from the United States suggests that matching the right pharmaceuticals to the appropriate patients as part of a programme to manage patients care would improve outcomes for both individual patients and the health sector as a whole.
- ensuring a consistent regulatory framework for the development of the bio-pharmaceutical industry. Adequate patent laws and other IP issues send a strong message to the industry that they are welcome and are an integral part of developing the sector.
- a better understanding by New Zealand based researchers that they can not do everything themselves. Rather they need to look for other entities that could do parts of the process better than they could do it.

Current research environment

If the current regulatory regime remains, there is a perception amongst researchers and pharmaceutical companies that the bio-pharmaceutical industry would bump along in an ad hoc fashion with little or no prospect of sustained pro-active support from pharmaceutical companies. If the bio-pharmaceutical industry is to become an important industry within New Zealand it will need pharmaceutical company funding.

While some scientists would continue to receive generous funding from pharmaceutical companies, the financial support would be an isolated development and would not lead to the development of domestic clusters. Their networks are orientated towards overseas suppliers/customers/partners.

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