

Issues Brief

8 Employment and Skills

GROWING AUSTRALIA'S EXTRAORDINARY TALENT

Australia's innovative medicines industry is poised for growth.

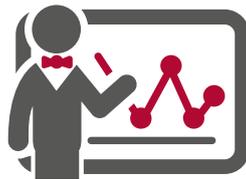
The strength of the medicines industry depends on the extraordinary talent of our people, their skills and knowledge.

Building on our capabilities will deliver rewarding jobs and new medicines that can change lives.



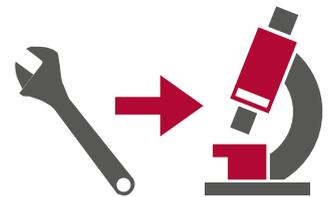
OBJECTIVES BRIEF 8: EMPLOYMENT AND SKILLS

Medicines Australia strongly supports the Australian Government in:



Investing and supporting further investment in the innovative medicines sector to continue to drive the demand for high-skilled jobs.

Supporting the transition of manufacturing capabilities from traditional areas (e.g. automotive and mining) to new growth areas through a comprehensive plan.



Ensuring that Australia has a suitably skilled and adaptable workforce to supply people qualified in science, technology, engineering and mathematics (STEM) in response to demand.

Working with the medicines industry and the education, training and research system to better align training and industry needs.



Reducing employment barriers through initiatives targeted to (but not limited to) people of Aboriginal and Torres Strait Islander backgrounds, people with a disability, women, and people from diverse cultural backgrounds.

OVERVIEW

Key fact:

The medicines industry employs around **15,400 Australians**, many of whom are in highly skilled jobs, with **above average** incomes.

Australia's medicines industry is currently one of Australia's major innovative industries, and consists of research, manufacturing, marketing and sales arms. It is an integral part of our knowledge intensive economy. The jobs the medicines industry creates have high wages and require a workforce with diverse skills and educational levels. Even more importantly, the industry helps to save lives and improve health care outcomes.

The broader medicines industry is made up of three inter-related areas:

1. **Pharmaceuticals:** Researching, developing and distributing medicines to treat illness or disease.
2. **Vaccines:** Researching, developing and distributing vaccines to prevent illness and disease.
3. **Biotechnology:** Researching, developing and distributing biological medicines using biotechnology techniques.



EMPLOYMENT IN THE MEDICINES INDUSTRY

The work and investments of Australia's innovative medicines industry also supports many thousands of skilled and unskilled jobs in related industries around the nation.

As do most manufacturing industries, the medicines industry has a substantial proportion of its workforce in services (figure 1). The two biggest areas of employment in the industry are estimated to be manufacturing/engineering and marketing/sales. Around 80% of people working for Medicines Australia member companies have some form of tertiary education.

In addition to the manufacturing of products, the medicines industry not only requires labour and capital, it also needs input in the form of goods and services from other industries. The demand from the medicines industry for such input creates jobs for other industries and suppliers, supporting many more thousands of indirect jobs. Many of these are niche regulatory and reimbursement consulting services for medicines companies. Other indirect jobs supported include those in specialist services equipment suppliers; for example, container suppliers, label suppliers and advanced manufacturing equipment suppliers.

FIGURE 1: WORKFORCE PROFILE OF MEDICINES AUSTRALIA MEMBER COMPANIES



Source: Medicines Australia member economic survey (2007)

CHALLENGE: SECURING THE HIGH-GROWTH INDUSTRIES OF THE FUTURE

We must harness our people, infrastructure and proximity to Asia to remain globally competitive.

The Australian Government, through the Industry Innovation and Competitiveness Agenda, has identified five areas where there is potential for growth:¹

- Food and agribusiness
- Mining equipment, technology and services (METS)
- Medical technologies and pharmaceuticals
- Advanced manufacturing
- Gas and energy resources.

Medicines Australia welcomes the identification of the medicines industry as a key priority area. Australia has many advantages that make us competitive: skilled workers, world-standard liveability, high-quality infrastructure and close proximity to Asia. But these resources must be connected if we are to grow the innovative medicines industry.

1. Industry Innovation and Competitiveness Agenda, Australian Government, October 2014. Available at: <http://www.industry.gov.au/industry/Pages/Industry-Innovation-and-Competitiveness-Agenda.aspx#header>



SOLUTION: DEVELOPMENT OF A LONG-TERM GROWTH PLAN FOR THE MEDICINES INDUSTRY

There is an enormous economic opportunity for Australia to develop and manufacture the new medicines and vaccines that will meet future health needs and deliver better health outcomes for patients.

Supporting the transition of manufacturing capabilities from traditional strengths to new growth areas will require a long-term shared plan. Global spending on medicines is projected to grow by more than 30% by 2018, to \$1.3 trillion² in response to urgent needs to help those suffering from chronic diseases.

Australia has extraordinary capabilities, but to be able to successfully translate cutting-edge research into real health and economic outcomes requires successful implementation of a long-term plan. The Australian Government through the Medical Technologies and Pharmaceuticals Growth Centre (MTPConnect) is developing a 10-year strategic plan.³ Medicines Australia looks forward to continuing to work with the Government, through MTPConnect to deliver on a shared plan.

Collaboration with industry and other key stakeholders on a shared plan will lead to more translational research, increased levels of manufacturing, increased exports and greater health and economic outcomes. The number of high-skills and high-wage jobs that can be created in the future will largely depend on how much growth occurs as a result of planning and collaboration with industry.

2. IMS Health Study Forecasts, 20 November 2014. Available at: [http://www.imshealth.com/de_CH/about-us/News-and-Events/ims-health-study-forecasts-global-spending-on-medicines-to-increase-30-percent-by-2018,-to-\\$1.3-trillion](http://www.imshealth.com/de_CH/about-us/News-and-Events/ims-health-study-forecasts-global-spending-on-medicines-to-increase-30-percent-by-2018,-to-$1.3-trillion)

3. MTPConnect, June 2016. Available at: <http://www.mtpconnect.org.au>



CHALLENGE: LOW LEVELS OF COLLABORATION BETWEEN UNIVERSITIES AND BUSINESS

Realising the full potential of the medicines industry will rely on facilitation of the innovative process from initial discoveries into the marketplace. The development of better links between business, research institutions and universities has been outlined as a key Australian Government objective.

This will not be easy to achieve. Numerous government reviews over the last decade have highlighted the urgent need to improve the links between Australian industry and higher education. Very little improvement in these links has been reported over the same period of time. The university sector's capabilities, in particular, will need to be harnessed in business-led research and innovation. Likewise, the University sector should consider how to best collaborate with the business sector to investigate commercially focused research.

There is an urgent need to improve links between Australian industry and higher education.

Despite the industry being a major employer of highly educated Australians, data collected by Medicines Australia has previously found that only a small number of member companies had engaged in a specific graduate intake program. Some indicated that they had undertaken a once-off intake and that no long-term program had been established.⁴

4. Medicines Australia member economic survey, 2007. Available at <https://medicinesaustralia.com.au/files/2009/12/Australian-Pharmaceutical-Industry-Report-2007.pdf>





**SOLUTION:
WORK WITH THE
MEDICINES INDUSTRY
AND THE EDUCATION,
TRAINING AND
RESEARCH SYSTEM
TO BETTER ALIGN
TRAINING AND
INDUSTRY NEEDS**

As the Australian Government has identified, transitioning successfully from the mining investment boom to a more diversified economy will rely on job creation in more knowledge intensive sectors.

Medicines Australia notes that the Australian Government believes that this rebalancing presents an opportunity to promote young Australians into growing sectors of the economy through new internship arrangements and PhD students through industry placements. Medicines Australia welcomes a number of specific commitments made by the Australian Government:

- An employment package for young people that includes new internship arrangements for young people as announced in the 2016/17 Budget;
- 1200 scholarship for undergraduate, postgraduate and vocational educational students to undertake industry based internships;⁵ and
- 150 industry research internships for PhD students.

The medicines industry recognises the need for initiatives that assist researchers to develop necessary experience to equip them for collaborative research opportunities with business.

Mechanisms such as internships, scholarships, graduate intake programmes, industry-based research placements are all needed. In addition, specific solutions to overcome emerging areas of skills gaps are important to consider as part of future planning with state governments. As illustrated in the following case study, some state governments are moving to better align education and training programmes with industry needs.

5. Liberal Party of Australia, The Coalition's Policy for Jobs and Growth in South Australia, June 2016. Available at: <https://www.liberal.org.au/coalitions-policy-jobs-and-growth-south-australia>



CASE STUDY: VICTORIAN STATE GOVERNMENT

MEDICAL TECHNOLOGIES AND PHARMACEUTICAL SECTORS STRATEGY

The Victorian Government's strategy includes a commitment to supporting Victorians entering the medtech and pharmaceuticals manufacturing workforce:

"A key focus for the Victorian Government is supporting the transition of manufacturing capabilities from traditional areas (e.g. automotive) to new and growing areas allowing them to benefit from the knowledge, expertise, and talent already developed.

Government support in translating skills from other industries to the medical device and pharma area would be a significant advantage, especially with the redeployment of high tech skills from the advanced manufacturing sector such as the aeronautical and automotive industries.

We will work with industry and the education and training system to more closely align training and industry needs. In partnership with industry we will explore the design and delivery of initiatives to provide access to a trained labour force with standardised good manufacturing practice (GMP) certification."

Source: Medical Technologies and Pharmaceuticals Sector Strategy, Business Victoria, March 2016



CHALLENGE: REDUCING BARRIERS TO EMPLOYMENT AND DRIVING TECHNOLOGICAL INNOVATION

Only one in four STEM workers are women.

A growing body of research predicts that the areas of future job growth will require people with higher levels of skills and education, including skills in science, technology, engineering and mathematics (STEM).

This includes research produced by the Committee for Economic Development of Australia (CEDA) on our future workforce, which suggests that around 5 million Australian jobs will likely be replaced by computers over the next 1–15 years.⁶

Consistent with the Australian Government's research, CEDA also predicts that medical technologies and pharmaceuticals are sectors that have major growth potential. It is clear that in the future, the skills associated with idea generation and translation to the development of new medicines will be increasingly important.

In Australia, women comprise around one quarter of the STEM workforce and 75% of the fastest growing industries will require STEM skills. The Australian Bureau of Statistics (ABS) reports that the labour force participation rate for people with disability in 2009 was only 54%, close to half the rate for people without disability (83%).⁷

Data also suggests that in 2011, Aboriginal and Torres Strait Islander people were less likely to be participating in the labour force than non-Indigenous people by a gap of 20.5%.⁸

6. Committee for Economic Development of Australia Australia's Future Workforce, June 2016. Available at: http://adminpanel.ceda.com.au/FOLDERS/Service/Files/Documents/26792-Futureworkforce_June2015.pdf

7. Australian Bureau of Statistics, 4102 – Australian Social Trends, March Quarter 2012.

8. Australian Bureau of Statistics, 4102, Australian Social Trends, Exploring the gap in labour market outcomes for Aboriginal and Torres Strait Islander Peoples.





SOLUTION: TARGETED POLICIES TO INCREASE EMPLOYMENT PARTICIPATION IN SECTORS OF FUTURE GROWTH

Government policies and investments are needed to create a job market that is accessible to people where employment barriers exist, such as people of Aboriginal and Torres Strait Islander backgrounds, people with a disability, women, and people from diverse cultural backgrounds.

The Australian Government has made an election commitment to increase the diversity of the STEM workforce as a high priority.⁹ The commitment includes a National Career Education Strategy to improve career and post school advice by working with industry, which is welcome news.

A commitment has also been made to implement measures to improve indigenous employment outcomes. The Australian Government's policy to **Develop Indigenous Business Opportunities** has a number of welcome initiatives.¹⁰

As the peak body representing the interests of the innovative medicines industry, Medicines Australia looks forward to engagement with the Australian Government as these initiatives are implemented.

9. Liberal Party of Australia, Supporting more women and girls in STEM careers, Media Release, 26 June 2016. Available at: <https://www.liberal.org.au/latest-news/2016/06/26/supporting-more-women-and-girls-stem-careers>

10. Liberal Party of Australia, The Coalition's policy to develop indigenous business opportunities, May 2016. Available at <https://www.liberal.org.au/coalitions-policy-develop-indigenous-business-opportunities>





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EXECUTIVE SUMMARY

A COMMON GOAL

A thriving Australian economy supporting high-value employment opportunities.

KEY CHALLENGES

- Securing the high-growth industries of the future – connecting skilled workers, world-standard liveability, high-quality infrastructure and close proximity to Asia to take advantage of our opportunities.
- Low levels of collaboration between universities and business – numerous Government reviews over the last decade have highlighted the urgent need to improve the links between Australian industry and higher education, but very little improvement has been reported over the same period of time.
- Reducing barriers to employment and driving technological innovation – areas of future job growth will require people with higher levels of skills and education, including skills in science, technology, engineering and mathematics.

KEY SOLUTIONS

- Develop a long-term growth plan for the medicines industry, including implementation of the MTPConnect 10-year strategic plan to deliver increased levels of manufacturing, exports, and highly-skilled jobs.
- Work with the medicines industry and the education, training and research system to better align training and industry needs.
- Targeted policies and investment to increase employment participation in sectors of future growth including where employment barriers exist, such as for people of Aboriginal and Torres Strait Islander backgrounds, people with a disability, women, and people from diverse cultural backgrounds.