

25 January 2019

Australian Government

Department of the Prime Minister and Cabinet

**Re: Vocational Education and Training Review**

Medicines Australia welcomes the opportunity to respond to the Australian Government's Vocational Education and Training (VET) review. Medicines Australia is the peak industry body for the research-based innovative pharmaceutical industry in Australia. Our members research and develop, manufacture and supply medicines and vaccines that help keep Australians productive, healthy and out of hospital. Our industry invests over \$1 billion in research and development (R&D) each year and generates close to \$4 billion in annual exports<sup>1</sup>.

The Australian medicines industry is an integral part of our knowledge intensive economy, providing thousands of high value jobs for Australians. Jobs in the medicines industry have high wages and require a workforce with diverse skills and educational levels. Consistent with the Australian Government's research, the Committee for Economic Development of Australia (CEDA) predicts that medical technologies and pharmaceuticals are sectors that have major growth potential<sup>2</sup>. Therefore, 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.

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.
- 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.

We would welcome the opportunity to discuss and collaborate with the Australian Government further on this issue. Please feel free to contact Betsy Anderson-Smith, Policy Officer on [banderson-smith@medaus.com.au](mailto:banderson-smith@medaus.com.au).

Yours sincerely,



**Dr Vicki Gardiner**

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Medicines Australia

## **1. What are the key challenges in the VET sector?**

### ***Workforce development – Skills development that aligns training and industry needs***

- The medicines industry requires a workforce whereby people not only have technical skills but also a broad range of professional skills. The pharmaceutical sector's supply chain is global and that brings new skills that need to be included in any educational program (including professional skills such as; virtual team leadership and management, cultural awareness, communication, project management, stakeholder management, and commercial acumen).
- Medicines Australia recognises the need for initiatives that assist researchers to develop the necessary experience to equip them for collaborative research opportunities with industry. This could be in the form of internships, scholarships, graduate intake programs and industry-based research placements.
- Government support in translating skills from other industries to the medical device and pharmaceutical 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. In addition, specific solutions to overcome emerging areas of skills gaps are important to consider as part of future planning with state governments.

### ***Ensuring that Australia has a skilled and adaptable workforce***

With the advent of a digital based economy and globalisation, the future workforce will require a different and more agile skillset compared with today's workforce. In addition, the demand for people suitably qualified in science, technology, engineering and mathematics (STEM) is increasing. The emerging professional is the para-professional, a person who has technical depth in an area of knowledge and has a broad range of professional skills. The VET sector is in the para-professional space and is ideally placed to support career pathways for an agile workforce.

## **2. What changes would you make to the VET sector?**

- The VET sector needs to be able to better explain the career opportunities for those with VET qualifications including career pathways to higher level jobs. A national career program where industry can present their best talent, career opportunities, work experience options and mentoring programs would be beneficial. A single centralised program would allow industry to engage with the target student audience and ensure consistency of messaging. The VET sector could work with industry and government to educate the participants and provide material where required.
- The VET education system could be improved in order to provide stability and certainty to industry that programs are relevant and sustainable in order to invest in training.
- The Australian Schools Based Apprenticeship should be strengthened to encourage greater retention of students to Years 11-12 while working with industry to increase career opportunities and placements.

### **3. How can VET help Australians prepare for the future workforce (as industry requirements and job patterns change)?**

- With the advent of a global marketplace, a digital based economy, and mass automation, the future workforce will require a different skillset than today's workforce. Australia needs a workforce that is prepared for a prosperous future, and for the challenges that lie ahead, therefore we must invest in providing a strong STEM education to all students. STEM literacy is becoming more important as an estimated 75% of future occupations will require STEM skills and knowledge (especially maths)<sup>3</sup>. In addition, women comprise fewer than one third of STEM academic and research staff in Australia<sup>4</sup>. Given that Australia's performance in both maths and science has been in decline since 2009, and fewer students are studying science in both secondary and tertiary education, any program needs to be cognisant of encouraging the uptake of these subjects in order to build the technical and educational foundation that will enhance Australia's economy through innovation<sup>5,6</sup>.
- Enhancing digital literacy should be a key focus for workforce development programs given the introduction of greater automation and the increasing reliance on technology in the present environment. The states and Federal Government should lead the development of national coding and information technology programs via funding of higher education and vocational education training programs that allow the awarding of sub-bachelor training, internships and apprenticeships.
- Education needs to be designed so that multiple delivery methods are possible, especially to increase educational attainment levels in rural and remote Australia as well as for those in lower socio-economic regions. 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. For demographics underrepresented in STEM fields it is necessary to create positive perceptions about the potential career paths in STEM, which may include initiatives such as: support for programs that directly connect school students with inspiring STEM role models; professional development for school careers counsellors to assist them in identifying STEM career options; education with a focus on how STEM skills and knowledge can solve real world problems; sponsorship for specific career advancement opportunities; and initiatives with a specific focus on recruiting and supporting minority populations in STEM roles.

## References

1. Medicines Australia FactsBook, 4<sup>th</sup> Edition.
2. Committee for Economic Development of Australia. Australia's Future Workforce. June 2016.
3. Australia's STEM workforce: a survey of employers" Office of the Chief Scientist, 2014.
4. Australian Government. Office of the Chief Scientist. Datasheet 2: November 2016. Women in STEM – A story of attrition. Available from: [https://www.chiefscientist.gov.au/wp-content/uploads/OCS Women in STEM datasheet.pdf](https://www.chiefscientist.gov.au/wp-content/uploads/OCS_Women_in_STEM_datasheet.pdf)
5. "The Programme for International Student Assessment key findings" Australian Council for Education Research 2016.
6. "Discipline Profile of the Mathematical Science" Australian Mathematical Sciences Institute, 2017.