

5. IPWG Update

Overview of Health Sector



All statistical data are courtesy of: Department of Industry and Science, Australian Government, and Business Council of Australia.

Overview

The health care industry, is an aggregation of sectors that provide goods and services to treat patients, promote health and wellbeing and research medical technologies to improve medical practice. The modern health care industry is divided into many sectors including but not limited to medical technology, digital health and life sciences (pharmaceuticals). Each of the sectors listed include jobs with skills sets similar to the automotive engineering skill set.

Sector Information

In 2010–11, 11.4 million people were employed across all industries. The health care industry employed the greatest number of people at 1.3 million persons or 11.4% of total employment. With 1.3 million people employed in health care and social assistance and individual sub sectors financial turnovers on the rise, employment for automotive engineers within these sectors and sub sectors is promising.

Health subsectors - Department of Economic Development:

1. Clinical research*
2. Constructional facility and design*
3. Life sciences (Pharmaceuticals)*
4. Med tech (Medical Devices)*
5. Aged care
6. Digital health (Virtual Reality)*
7. International collaboration
8. Education and training

*Indicates that potential employment opportunities exist in the sub sector for automotive engineers transitioning

Statistics, Trending and History

According to the Business Council of Australia, BCA, total health expenditure of \$112.8 billion in 2008–09 represented 9 per cent of Australia’s GDP (Gross Domestic Product) and is projected to increase to between 12 and 15 per cent of GDP over the next 30 years, on an unchanged policy basis. The healthcare and social assistance sector is the largest employing sector in Australia. It employs more than the retail, construction and manufacturing sectors. Healthcare alone is the sixth largest employment sector.

The annual growth alone in health spending of \$9.2 billion from 2007–08 to 2008–09 was about the same as was allocated to economic infrastructure in the May 2009 Commonwealth Budget (\$8.5 billion). The growth is almost three times the amount to be spent on water buybacks by the Commonwealth Government over 10 years (\$3.1 billion). Total health expenditure was almost three times as much as income from iron ore exports in 2008–09 (\$34.2 billion).

Key Economy Indicators

Due to vastness and diversity of the Health sector, IPWG intends to bring more detailed study into the most relevant subsectors to automotive engineers in separate articles.



High Level Skill mapping

Health Sub-sectors	Roles and Skills				
	Clinical Research	Constructional facility and design	Life sciences (Pharmaceuticals)	Med tech (Medical Devices)	Digital health (Virtual Reality)
Mechanical Engineer		x		x	
Electrical Engineer		x		x	
Software Engineer	x	x		x	x
Control Systems Engineer	x	x	x	x	x
Data Analysis	x	x	x	x	x
Problem Solving	x	x	x	x	x
Research & Development		x		x	x
Design and Development		x		x	
CAD and 3D modeling		x		x	x
CAE (Simulation and Analysis)					x
Product Development		x		x	x
Product Engineering		x	x	x	x
Production Engineering			x	x	
Testing		x		x	x
Validation Engineering			x	x	x
Vendor Management				x	x
Quality Engineering		x		x	x
Project Management		x	x	x	x
Technical Sales Engineering			x	x	
Maintenance		x		x	x
Business Development		x		x	
Business Management		x		x	x
Strategic Planning		x		x	x
Leading Teams		x	x	x	x

Potential Opportunities and Synergy

Sub Sector	Potential Opportunity Areas	Job Synergy
Clinical Research	Data analysis	Large demand for data analysis experts
Constructional facility and design	Project management, product development process	Large demand for process driven engineers with background in product design and project management
Life sciences (Pharmaceuticals)	data analysis	Large demand for data analysis experts
Med tech (Medical Devices)	Design & development, validation, production, modelling, etc	Large demand for design and development experience in precise and high tech product area
Aged care	Facility management	Increasing demand for facility managers, installations and BMS experts
Digital health (Virtual Reality)	Software and modelling	Increasing demand for software and control systems engineers and 3d modelers