



Australian Government

Australian Trade and Investment Commission

# Advanced Therapeutics in Australia

Innovate. Evaluate. Expand



AUSTRALIA

# About us

The Australian Trade and Investment Commission (Austrade) is the Australian Government's international trade promotion and investment attraction agency. We deliver quality trade and investment services to businesses to grow Australia's prosperity.

Our network of 1,200 experts across 67 international offices gives Aussie businesses a competitive edge in the global marketplace. We also help new international businesses establish operations in Australia.

Our team of health investment specialists can help you:

- Understand and access available Australian Government grants and incentives.
- Connect with key leaders and early-stage opportunities aligned to your strategic interests.
- Facilitate engagement with all levels of government.
- Link to trade services to support your export journey.

## Find out more

Visit [www.austrade.gov.au](http://www.austrade.gov.au) or contact us at [personalisedmedicine@austrade.gov.au](mailto:personalisedmedicine@austrade.gov.au)

# Ministerial foreword

There is no better place than Australia for life sciences businesses, especially in advanced therapeutics. Australia is home to some of the world's most innovative medical biotechnology businesses, and our thriving life sciences sector attracts investment from multinationals, start-ups, and research organisations from around the world.

Investors value our stable, globally connected economy, which the International Monetary Fund projects to grow by 1.6% in 2023. Australia has strong trade and investment relationships with the world's fastest-growing economies, and we're a natural gateway for companies seeking to do business in the Asian and Indo-Pacific markets.

Our fast-growing life sciences sector is one of the largest in the southern hemisphere, valued at over A\$250 billion. The sector grew by an astonishing 40% in the two years from 2021, and now boasts a critical mass of over 2,600 life sciences organisations, employing around 264,000 people. Australia is an export-driven economy with 18 free trade agreements in place, including multiple regional trade agreements in Southeast Asia. Australia also has a thriving domestic health industry with the 6th highest per capita health expenditure in the world.

Our strength is in our diversity. Australia is multicultural and welcoming, with a highly educated and skilled workforce. As a nation we are renowned for quality and innovation across multiple industries, and our scientific institutions rank in the world's top 1% in 15 individual fields of research including clinical medicine. This reputation and our quality of life attracts and retains skilled talent from across the globe.

Australia is one of the top 10 countries in the world for contributions to life sciences research. Australia was the incubator for Gardasil® vaccine for human papillomavirus (HPV) and Recell™, the spray on skin that revolutionised the treatment of burns worldwide, along with the Cochlear implant.



The Australian Government is backing the life sciences sector and supporting companies to succeed. We have created the A\$20 billion Medical Research Future Fund (MRFF) to address emerging health needs. There is also the A\$15 billion National Reconstruction Fund (NRF) to support manufacturing, with A\$1.5 billion earmarked for medical manufacturing. Additionally, we have the A\$500 million Biomedical Translation Fund (BTF) to support biomedical research commercialisation, and a Research and Development Tax Incentive (RDTI) which provides a tax offset up to 43.5% on eligible R&D expenditure.

The right place is Australia, and the right time is now!

A handwritten signature in black ink, reading "Don Farrell".

**Senator the Hon Don Farrell**  
**Minister for Trade and Tourism**

# Our Partners

## AusBiotech



AusBiotech is Australia's industry body advocating for organisations doing business in global life sciences. The AusBiotech network is made up of more than 3,000 organisations in life sciences, therapeutics, medical technology (devices and diagnostics), digital health, and agri-biotech sectors.

AusBiotech is represented in each Aussie state. It provides a national network to support members and promote Australian life sciences in the national and international marketplace.

## CSIRO



CSIRO is Australia's National Science Agency. For more than a century, it's been using science, innovation and technology to solve the world's greatest challenges.

CSIRO's deep and broad relationships bring together the best minds working across industry, government and research. It delivers innovative solutions and improvements in areas including energy and biosecurity, manufacturing and healthcare.

## Medicines Australia



Medicines Australia leads the research-based medicines industry Down Under. Its members discover, develop and make prescription pharmaceuticals, biotherapeutics and vaccines. These products bring health, social and economic benefits to Australia and beyond.

Medicines Australia's mission is to drive policy outcomes in partnership with government, health sector organisations and the community. This ensures Australians have universal, affordable and fast access to treatments that keep pace with advancements in medicine.

## MTP Connect



MTPConnect is an independent, not-for-profit organisation formed as part of the Federal Government's Industry Growth Centres Initiative. The initiative aims to accelerate the growth of the medical technology, biotechnology and pharmaceutical sector in Australia.

MTPConnect's mission is to forge stronger connections between research and industry. This helps maximise opportunities for Australians to make scientific and technological breakthroughs, and to see them developed and commercialised. In this way, MTPConnect is building a more resilient and competitive medical products sector.

MTPConnect raises awareness, fosters collaboration and competition, combines existing knowledge and shares it with the broader life sciences sector. It also jointly funds projects that address the sector's growth priorities, constraints and gaps.

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### Acknowledgement of country

In the spirit of reconciliation we acknowledge the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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Publication date: May 2023



# Why Australia

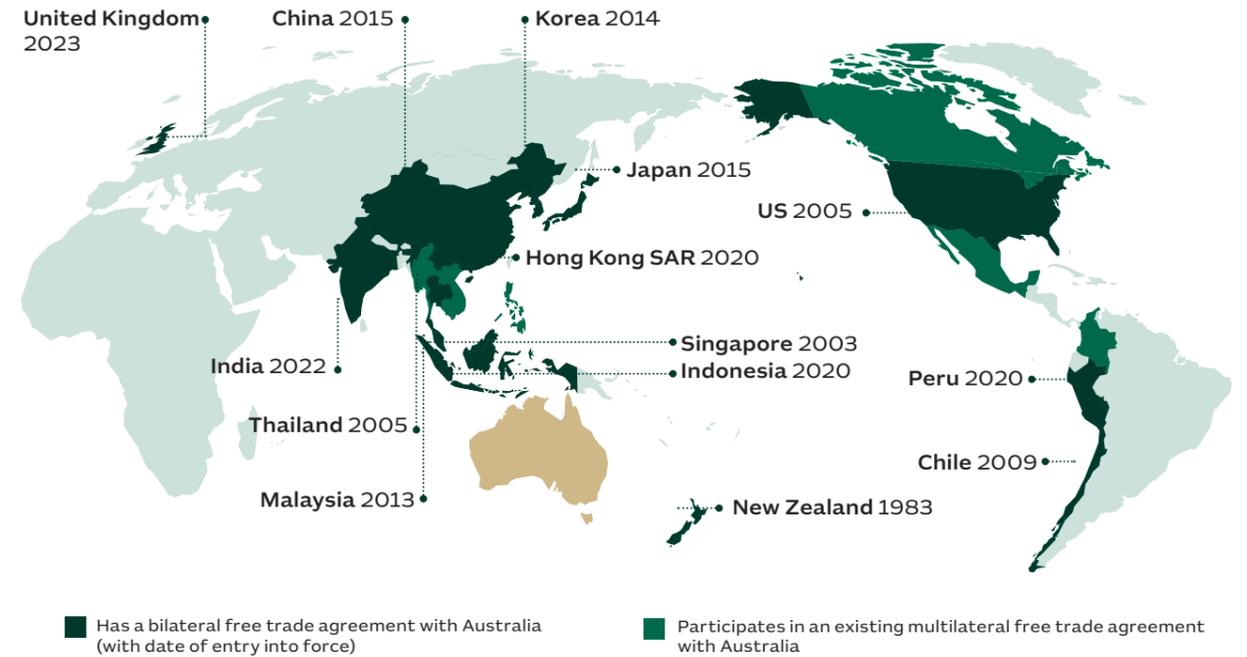
The Australian life sciences industry has thrived over the past decade. Underpinned by strong medical research and a collaborative culture, our industry is driving transformative innovations in health.

## Australia's competitive advantage

Australia sees investors take innovations from the lab, through manufacturing and into clinical settings with ease. Australia's competitive advantage is underpinned by:

- An established healthcare system supported by globally recognised regulators.
- A vibrant innovation ecosystem with expertise and world-class infrastructure.
- Outstanding clinical trial capabilities, with streamlined regulatory pathways to expedite studies.
- Significant government support, including an R&D tax offset of up to 43.5% and A\$21.5 billion in support funds for life sciences.
- An export-driven economy with 18 free trade agreements.

## Australia's free trade agreements





*‘Australia’s pragmatic regulatory environment is one of our key strengths. The Therapeutic Goods Administration delegates trial reviews to private human-research ethics committees like Bellberry. This speeds up approval times so clinical trials can be set up quickly and safely.’*

*Jayden Rogers, CEO, Linear Clinical Research*

### Robust healthcare and regulatory systems

Australia is a commercially attractive market with spending at US\$176 billion in 2021<sup>1</sup>. Globally, this is the 6th highest per capita health expenditure.

Under a public-private model, our high-quality healthcare system is among the best in the world. Medicare and the Pharmaceutical Benefits Scheme (PBS) are our universal health insurance and pharmaceutical subsidy solutions. Extensive provision of private health insurance creates pathways to introduce new treatments on a solid commercial basis.

Our regulatory system for therapeutic goods is globally recognised. Our national regulator, the Therapeutic Goods Administration (TGA), partners with comparable overseas regulators, including the Food and Drug Administration and European Medicines Agency, to streamline therapeutic goods approvals. This means that global businesses can conduct clinical trials in Australia and scale into global markets.

1. Fitch Solutions Group, Worldwide medical devices market factbook 2022  
 2. AmCham, Biotechnology the \$250 billion life and game changer 2023  
 3. AusBiotech, Australia’s regenerative medicine clinical trials database 2021

Our hospitals are integrated with cutting-edge research and data capabilities. The Australian Commission of Safety and Quality in Healthcare works in partnership with health stakeholders to ensure national safety and quality clinical care standards.

### A vibrant industry with enviable clinical trials capability

The Australian biotechnology sector has grown by 40% in the last two years. The sector has 192 listed companies, with a market capitalisation of A\$250 billion.<sup>2</sup> Rapid industry growth is driven by our entrepreneurial culture, open market and strong collaborative networks.

Australia’s clinical trials capability is second to none. Global biopharmaceuticals like Roche Holding and Novartis are using our clinical experts, specialised infrastructure and streamlined regulatory approval systems for their development needs.



In 2021, 11% of global clinical trials investigating cell and gene therapies were conducted in Australia.<sup>3</sup>

### Find out more

Visit [Global Australia](#) for more **success stories**.



An ageing population, increase in chronic conditions and growing economic opportunities are fuelling healthcare demand in the Asia-Pacific. Our closeness to the region makes us a great choice to scale to neighbouring markets. 12 of Australia’s top export markets are in the Asian region.

*‘CSIRO’s collaborative approach to innovation means we work with governments, industry, universities and other research organisations across the globe to improve lives and solve challenges. Our people, laboratories and equipment are internationally recognised. By partnering across the medical research ecosystem, our science has the best chance of moving from the lab bench to the community, where it can make the biggest difference.’*

*Bronwyn Fox, Chief Scientist, CSIRO*

### Research, develop and scale to global markets

Australia is an awesome location to research, develop and scale biotherapeutics. This is supported by:



**A\$21.5 billion**  
in business support funding for life sciences.



**US\$176 billion**  
spent on health. The **6<sup>th</sup> largest** health expenditure per capita in the world.<sup>1</sup>



Ranked **5<sup>th</sup>** on quality of the healthcare system.<sup>4</sup>



Ranked **3<sup>rd</sup>** for IP protection globally.<sup>5</sup>

4. Foundation for Research on Equal Opportunity, Introducing the FREOPP world index of healthcare innovation 2023  
 5. International Property Rights Index 2022

# Australia's life sciences ecosystem

## Our flourishing industry



**192** ASX-listed life sciences companies with a market capitalisation of around A\$250 billion.<sup>2,6</sup>



**A\$5.6 billion** was exported from Australia by the health and life sciences sector in 2021.<sup>8</sup>



**40%** growth in the biotechnology sector since 2021.<sup>2</sup>



The clinical trials sector employs more than **8,000** Australians.<sup>9</sup>

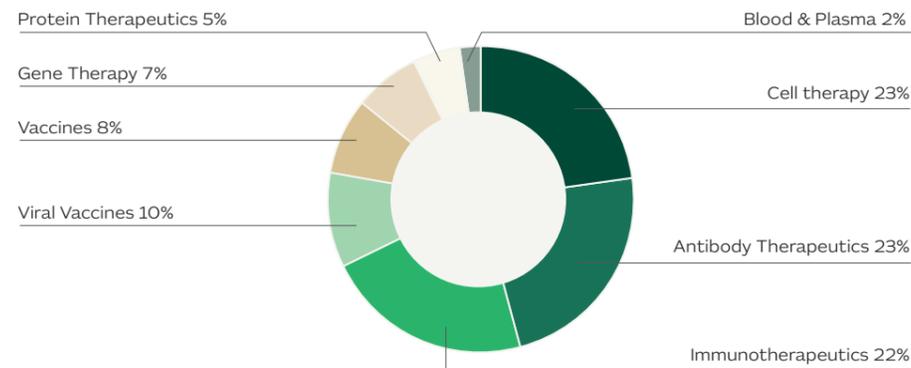


Australia's biotechnology sector generated **A\$10.3 billion** in revenue in 2021-2022.<sup>7</sup>



**95,000** Australians participated in clinical trials in 2019.<sup>9</sup>

## Australian advanced therapeutic companies

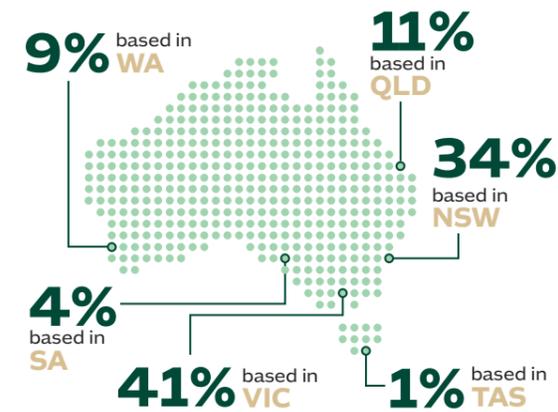


Source: IMAPAC, Australia Biologics industry and processing overview 2023

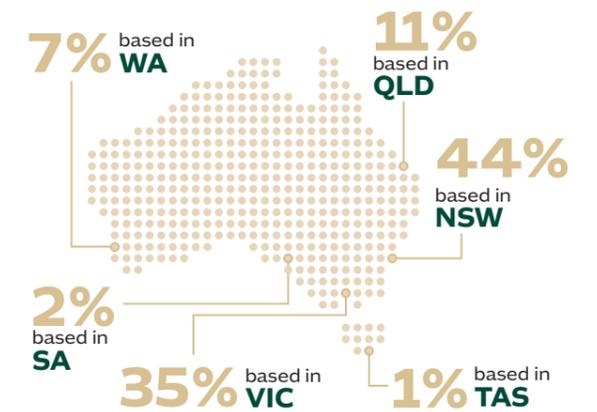
- 6. AusBiotech, Australian biotechnology sector snapshot 2022
- 7. IBISWorld, Biotechnology in Australia 2022
- 8. MTPConnect, Sector competitiveness plan 2022
- 9. MTPConnect, Clinical trials sector report 2021

## Biotherapeutics, MedTech and digital health company locations<sup>6</sup>

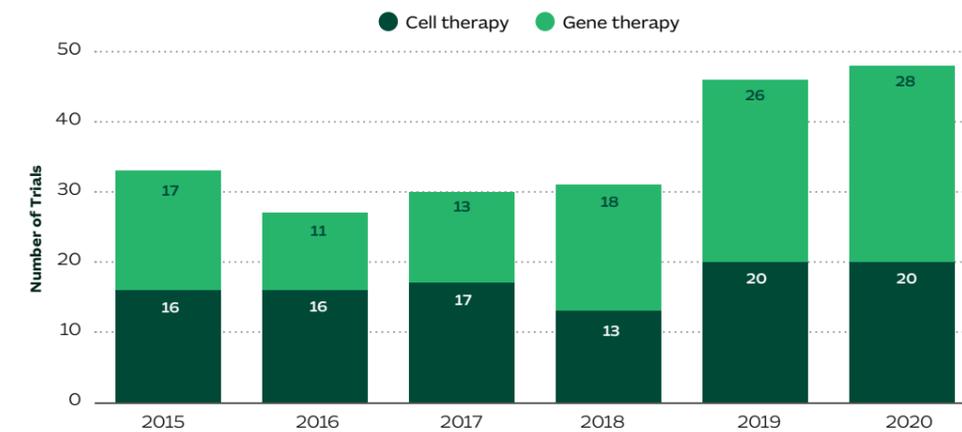
### Biotherapeutics companies



### Medical technology & digital health companies



## Advanced therapeutics clinical trials in Australia<sup>3</sup>



## Life science employee location<sup>6</sup>

State	Number of Life Science Employees Total*	Biotherapeutics Employees	Medical Technology & Digital Health
NSW	89,537	24,669	16,621
QLD	32,678	1,801	951
SA	14,391	2,214	1,162
TAS	2,046	112	72
VIC	100,642	19,981	10,958
WA	23,984	4,186	951

\* Includes workforce in food and agriculture sector

# Proven leaders in life sciences innovation

Australia's thriving life sciences industry is driven by a diverse and integrated ecosystem. To make the most of collaboration and knowledge transfer, we have established health precincts connecting hospitals, universities, research institutes and industry partners.

Australia has a strong record of research innovation and a history of breakthrough medical interventions. These include the **Gardasil**<sup>®</sup> vaccine against human papillomavirus (HPV) and **ReCell**<sup>™</sup>, the spray-on skin that revolutionised burns treatment worldwide.

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*'We have world-class expertise in areas like immunology, cancer, cardiovascular diseases and the central nervous system. This creates a platform for discovering and creating new drugs and technologies.'*

**Tim Oldham, CEO, AdAlta**

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Australia values innovation and recognises the importance of intellectual property (IP) protection. Our legal system provides robust security for IP, with up to 25 years of patent protection. This safeguards investment and encourages innovation.

We have first-rate biomanufacturing skills and significant demand that are creating opportunities for new investment into Australia. Entrepreneurs and researchers can access local production of high-quality, personalised biotherapeutics for clinical trials and patient use. Services are provided by Cell Therapies, Cell and Tissue Therapies Western Australia, Patheon (Thermo Fisher), Sydney Cell and Gene Therapy, and BioCina.



# Exceptional talent

Global biopharmaceutical innovators like **Moderna**, **Sanofi** and **BioNTech** are partnering with local experts to accelerate biotherapeutic developments.

Australia's highly qualified workforce is the foundation of our thriving ecosystem. The life sciences sector employs 264,000 people in Australia, with 53,000 in biotherapeutics.

Our scientific institutions rank in the world's top 1% in 15 individual fields of research. Seven Australian universities are ranked in the world's top 100. At least 70% of the Australian workforce holds an advanced diploma or higher qualification<sup>10</sup>.

## Integrated industry skills development and training

We invest heavily in our future workforce and have established programs that provide industry experience and skills development for the life sciences sector. MTPConnect works with industry to identify priority skills needs, with these addressed through the education system and immigration pathways.

MTPConnect's Researcher Exchange and Development within Industry (REDI) Initiative is a A\$32 million program to boost workforce development for the medical technology, biotechnology and pharmaceutical sectors. The initiative is delivered in partnership with research, training and industry to align with the sector needs across:

- Advanced manufacturing and supply chain.
- Business operations.
- Clinical trials.
- Health data and cyber security.
- Product development and commercialisation skills.
- Industry fellowships and internships.
- Mentoring.

10. Austrade, Why Australia Benchmark Report 2022



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*'The Australian clinical fraternity is first-rate. The clinicians we partner with are on the podium at all the global cardiac symposia. We are privileged to partner with them.'*

**Polo Guilbert-Wright, Senior Director Government Affairs, Edwards Lifesciences Australia**

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Skilled workers qualified in Good Manufacturing Practice (GMP) are critical for scaling our manufacturing ability. Part of REDI, the Centre of Biopharmaceutical Excellence's GMP Uplift Program provides hands-on practical training to apply GMP. The program provides training pathways for entry-level employees through to seasoned professionals.

# Explore Australia's thriving life sciences innovation precincts



## Western Australia:

- Murdoch Health and Knowledge Precinct
- Queen Elizabeth II (QEII) Medical Precinct

### QEII Medical Precinct

The QEII Medical Precinct is the largest health and medical life sciences precinct in Western Australia. The precinct has more than 40 health-related organisations, including 3 hospitals and 6 independent medical research institutes.



## South Australia:

- Adelaide BioMed City
- Tonsley Innovation District
- Lot Fourteen

### Adelaide BioMed City (ABMC)

Adelaide BioMed City (ABMC) comprises of cutting-edge anchor institutes and companies. This includes the Australian Bragg Centre, which will be the first of its kind proton therapy centre in the Southern Hemisphere.



## Queensland:

- Princess Alexandra Hospital Health Precinct
- Australian Tropical Science and Innovation Precinct
- Sunshine Coast Health Precinct
- Herston Health Precinct
- Queensland Bioscience Precinct

### Princess Alexandra Hospital Health Precinct

The Precinct incorporates the Translational Research Institute, which aims to accelerate research translation. A new Translational Manufacturing Institute will support start-ups and researchers in their manufacturing and commercialisation capabilities.



## New South Wales:

- Randwick Health and Education Super Precinct
- Macquarie Park Innovation District
- John Hunter Health Innovation Precinct
- Liverpool Innovation Precinct
- Westmead Health Precinct

### Westmead Health Precinct

The Westmead Health Precinct comprises a network of hospitals, universities and research institutes. This includes the Children Medical Research Institute that leads the ProCan program. This program documents the proteome of human cancers to improve diagnosis and treatment.



## Victoria:

- La Trobe University Research and Innovation Precinct
- Melbourne Biomedical Precinct
- CSIRO and Monash Health Translation Precinct
- Western Centre for Health, Research and Education Victoria University

### Melbourne Biomedical Precinct (MBP)

The MBP brings together know-how across infectious diseases, immunology, oncology and neuroscience. This includes the Doherty Institute, the first research institute to isolate the COVID-19 virus outside China.

## Tasmania:

- University of Tasmania Medical Science Precinct

*non-exhaustive list*

# An ideal clinical trials destination

Australia is a go-to destination for conducting clinical trials. Companies can leverage our advanced capabilities in quality, speed and cost.

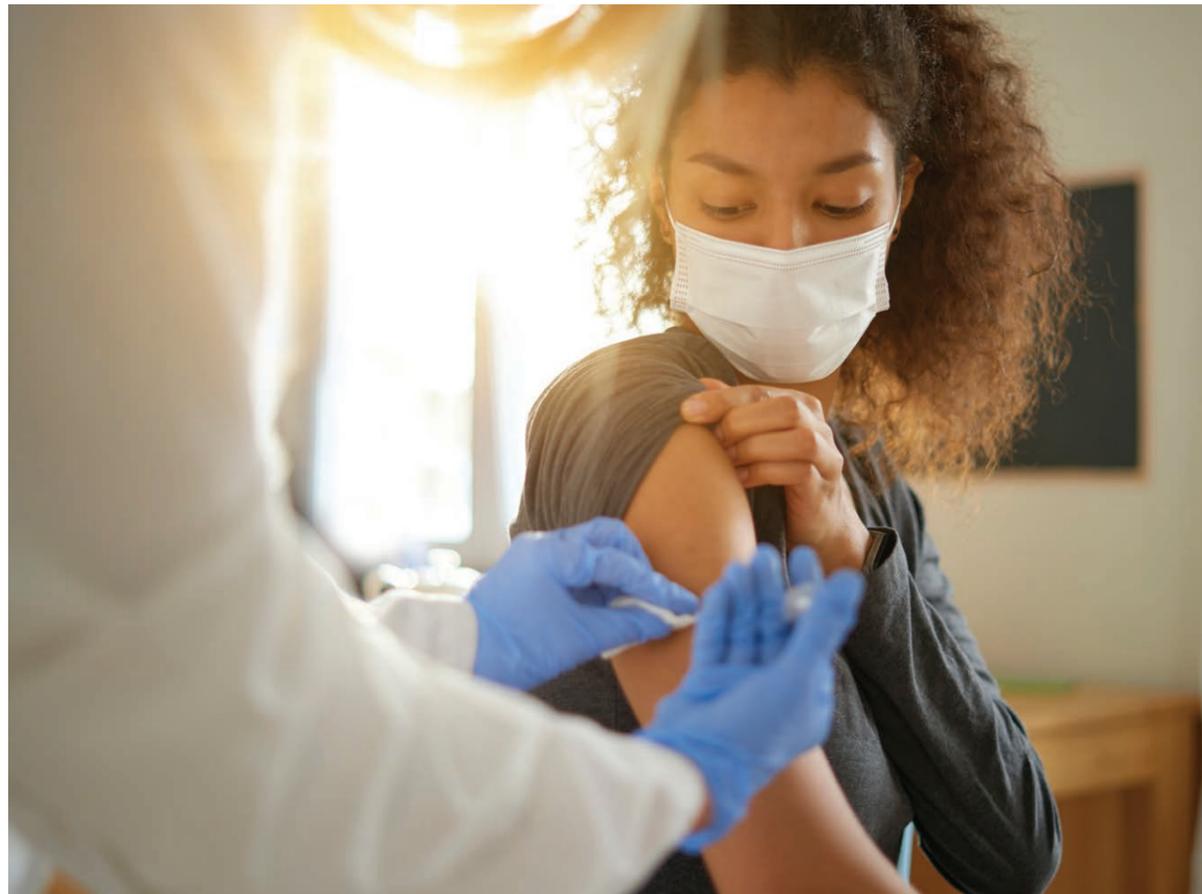
Globally, we have the third-highest rate of industry-initiated early phase clinical trials<sup>11</sup>. Our success is attributed to:

- A multicultural and diverse population, supporting the breadth of clinical trial needs.
- Seasonal differences between the Northern and Southern hemisphere.
- Quality research and data, recognised by global regulators.
- Dedicated infrastructure for early-phase clinical trials.

- Efficient regulatory and ethics approval.
- Highly cost-effective R&D tax offset for eligible activities.

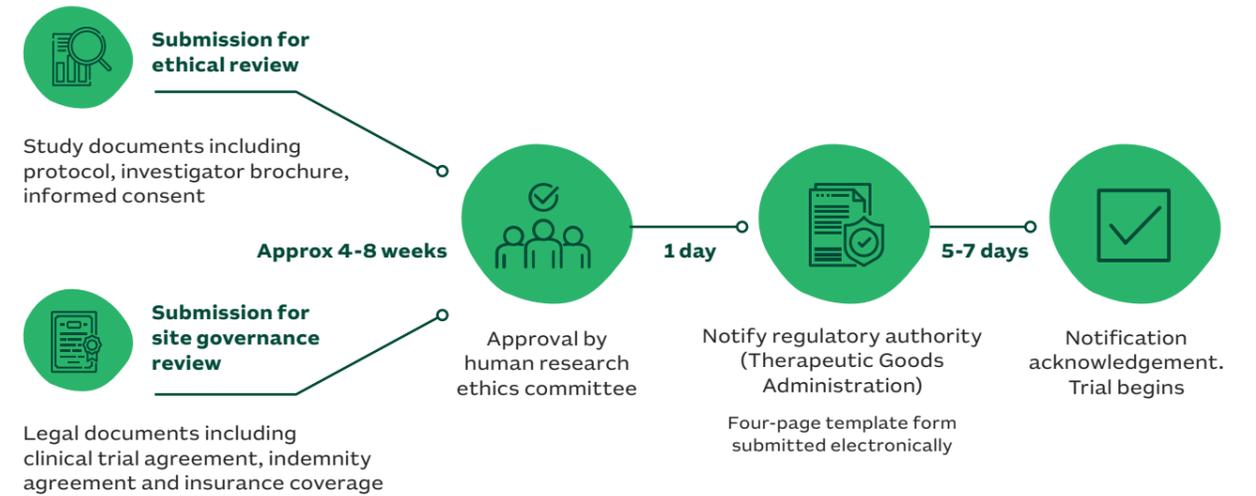
## Efficient path to market

Our Clinical Trial Notification Scheme reduces the regulatory burden to enable efficient trial initiation. The Human Research Ethics Committee (HREC) reviews the proposed clinical trials material, and the Therapeutic Goods Administration (TGA) is notified of a clinical trial after it has received approval from the HREC.



11. ABPI, Rescuing patient access to industry clinical trials in the UK 2022

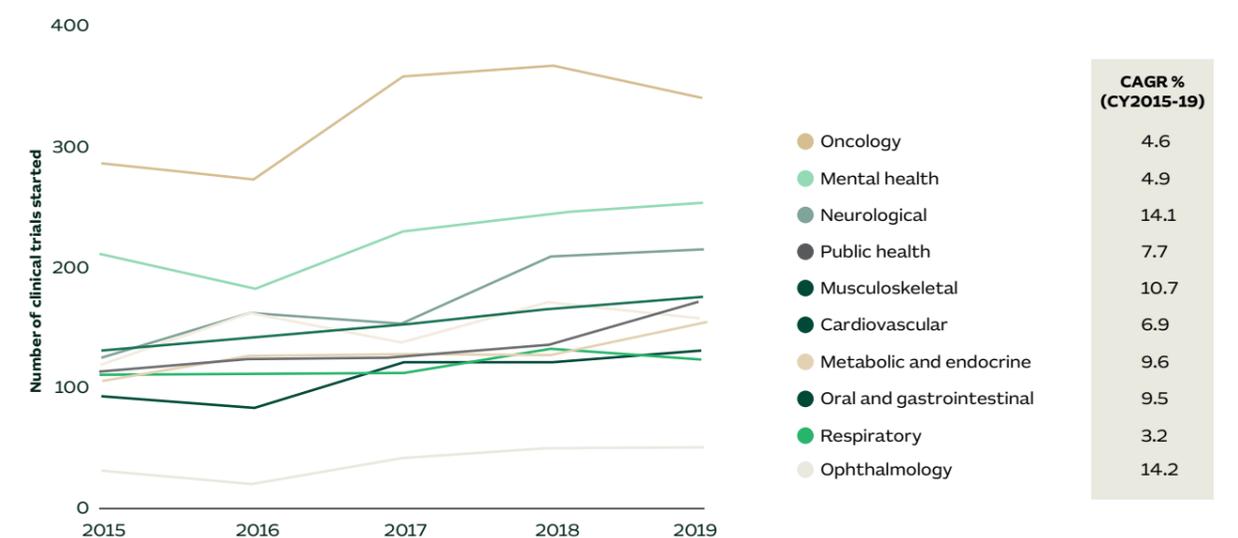
## Clinical Trial Notification Scheme



*'Australia is a great place to conduct clinical trials because Australia's clinicians know how to run trials well. Australia also provides good infrastructure and facilities, regulatory support medical expertise and a diverse population.'*

*Michael Azrak, General Manager, Moderna Australia & New Zealand*

## Number of clinical trials started, by therapy area<sup>9</sup>

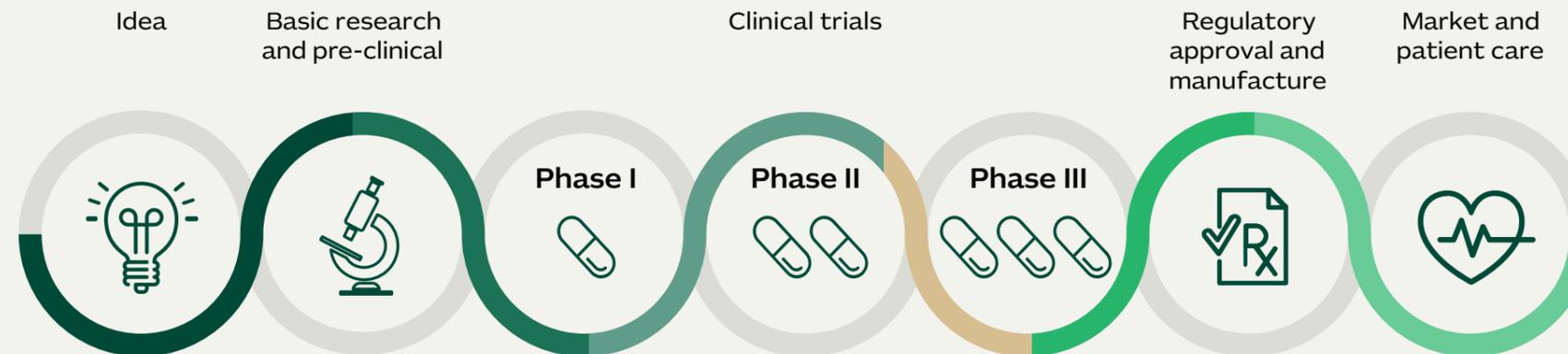


\* Select therapy area shown

# Overview of government incentives and programs

The Australian Government is committed to growing investment and innovation in the life sciences sector. Support is provided at each phase of the innovation pathway.

## Development pathway



## Investments

**National Health and Medical Research Council (NHMRC)** disburses

**A\$850 million** in grants for medical research and clinical development.

**Australian Research Council (ARC)**

hosts several grants facilitating research-industry collaboration.

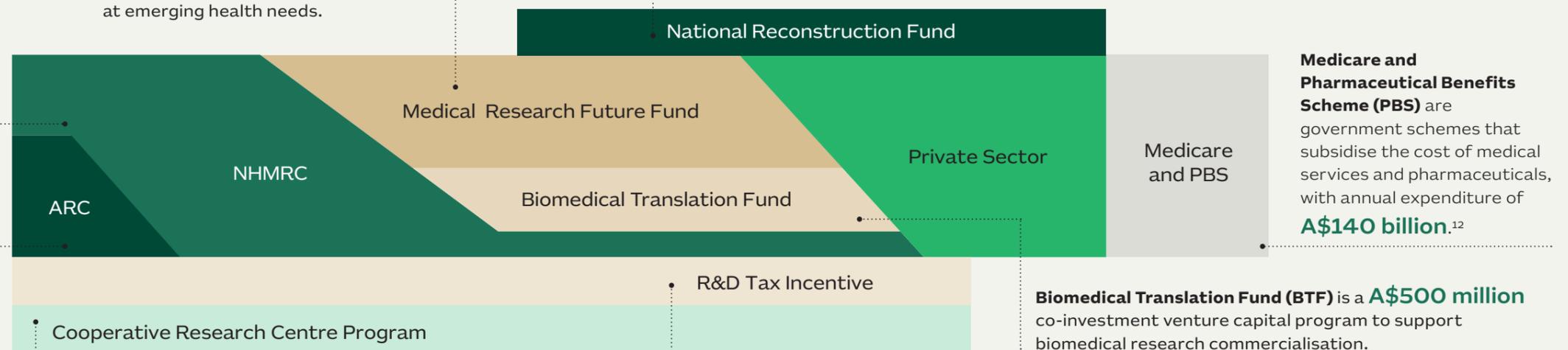
**Medical Research Future Fund (MRFF)**

is a **A\$20 billion** fund targeted at emerging health needs.

**National Reconstruction Fund (NRF)**

invests **A\$15 billion** in manufacturing capability.

**A\$1.5 billion** is earmarked for medical manufacturing through co-investment by the Australian Government via debt or equity support or guarantees.



**Medicare and Pharmaceutical Benefits Scheme (PBS)** are government schemes that subsidise the cost of medical services and pharmaceuticals, with annual expenditure of **A\$140 billion**.<sup>12</sup>

**Biomedical Translation Fund (BTF)** is a **A\$500 million** co-investment venture capital program to support biomedical research commercialisation.

**R&D Tax Incentive**

**Research and Development Tax Incentive (RDTI)** provides an offset of up to **43.5%** for eligible R&D expenditure.

**Cooperative Research Centre Program**

**Cooperative Research Centre (CRC) Program** maximises research translation by offering **matched funding** for public-private partnership projects.

12. AIHW, Health expenditure 2019-2020

non-exhaustive list

# The Research and Development Tax Incentive

The Research and Development (R&D) Tax Incentive makes Australia globally competitive for companies looking to innovate.

Companies can access an R&D tax offset for eligible R&D expenditure greater than A\$20,000. The scheme is split into two tiers based on company turnover.

An Advanced Finding application provides assurance that your R&D activities are eligible for the offset.

In some circumstances, when specific conditions have been met, overseas R&D expenditure can qualify for an offset. This requires an Overseas Finding application.

Activities involved in certain clinical trials are determined to meet the requirements as eligible R&D activities, simplifying R&D Tax Incentive applications.

## Find out more

Visit [business.gov.au](https://business.gov.au) for **R&D Tax Incentive**, **Advanced Findings** and **Overseas Findings** application.

### Refundable tax offset



#### Turnover <\$20 million

This R&D offset is available to companies with an aggregated turnover of less than <\$20 million



#### Refund of 43.5 cents\*

Translates to a cash refund of up to 43.5 cents for every dollar spent on R&D activities in Australia, for companies that have sufficient tax losses

\*Based on the current corporate tax rate of 25%



#### Equates to 18.5 cents

For companies in a tax paying position, the benefit equates to 18.5 cents for every dollar spent on R&D activities in Australia

### Non refundable tax offset



#### Turnover >\$20 million

This R&D offset is available to companies with an aggregated turnover of \$20 million or more



#### Premium of 8.5% to 16.5%

Provides a reduction in tax liability to at least 8.5 cents for every dollar spent on R&D activities in Australia. A premium rate of 16.5% is available on R&D expenditure exceeding a 2% R&D intensity threshold.

The R&D intensity is based on the proportion of a company's R&D expenditure to total expenses.

# Explore Australia's rich life sciences ecosystem

Discover the diversity of life sciences capabilities across Australia.



# New South Wales: an innovation powerhouse

New South Wales (NSW) is a go-to location for companies looking to expand in Australia and the Asia-Pacific. Tap into the state's industry-ready talent pipeline and outstanding healthcare system.

## A global destination for clinical trials

NSW is at the forefront of global clinical trials activity. Its large, diverse population is complemented by top-notch research institutions, universities, and a highly networked public health system.

The state's local manufacturing facilities, state-wide public pathology service and world-class biobank provide the infrastructure needed for quality clinical trials. The NSW Health state-wide biobank accesses the state's data linkage program. This allows for post-trial observation of patient outcomes and access to real-world data.

NSW has a statewide Clinical Trial Support Unit in the Ministry of Health. Clinical trials NSW offers Clinical Trial Connect, a free personalised concierge service to assist partners in establishing and conducting clinical trials in the state. Services include logistics support, liaison with clinical trial sites, and introduction to researchers and contract research organisations.

## Find out more

Visit the [Clinical Trial Connect concierge service](#).

## Delivering ground-breaking advanced therapeutics

A research-intensive clinical environment supports NSW's globally recognised genomics and precision therapeutics researchers. NSW has specific strengths in gene and cell therapy, viral vector engineering and bacteriophage (phage) therapy. Broader research priorities include oncology, neuroscience, cardiovascular medicine, infectious diseases and medical devices.

NSW has advanced manufacturing capabilities that support early-phase research through to GMP manufacturing. The NSW Government has announced significant investments to increase capacity for RNA and viral vector manufacturing. NSW supports growing workforce needs with world-leading training in GMP bioprocessing and biomanufacturing, through the University of Technology Sydney's Biologics Innovation Facility.

## Find out more

Visit [Investment NSW](#) or contact us at [investment.inquiries@investment.nsw.gov.au](mailto:investment.inquiries@investment.nsw.gov.au). To connect with the NSW Health system contact, [moh-internationaldesk@health.nsw.gov.au](mailto:moh-internationaldesk@health.nsw.gov.au)



Efficient trial start-up is a performance indicator for NSW hospitals. Ninety percent of clinical trials have ethics approval and contracts signed within 90 days of application.



## New South Wales leads the way in phage therapy

NSW has operated a program for compassionate access to phage therapy since 2007.

As part of this program, NSW researchers were the first globally to intravenously administer a GMP-quality phage therapy that successfully treated antibiotic-resistant Staphylococcus infections in humans. This initiative has now been scaled up nationally to become Phage Australia – the world's first fully integrated national network of phage researchers and clinician scientists.

Phage Australia aims to establish phage therapy as the third major intervention for infectious diseases, after vaccines and antibiotics. The collaboration is building a national industry ecosystem of genomics and informatics, diagnostics, clinical trials, manufacturing and internationally networked biobanks.

Phage Australia is leading a national open label clinical trial, preparing the health system for the integration of phage therapy as a clinical service. Research like this directly addresses the rising incidence of antimicrobial resistance and sepsis.

# Queensland life sciences: globally competitive

Queensland is a leading biomedical hub with established and emerging health precincts. It offers globally recognised infrastructure for research, translation, manufacture, and supply to the highest international standards.

## Queensland's biomedical sector

The Queensland Government has identified the emerging biomedical sector as a priority growth area. Queensland has a world-class biomedical ecosystem boasting a wealth of cutting-edge biomedical companies and research institutions, established and emerging health precincts, world class universities and a highly-skilled workforce. Queensland's sector strengths include:

- Global expertise in tropical medicine and infectious diseases.
- World-class research base within key innovation precincts.
- High-value niche businesses supported by an established network of service providers.
- Expertise in e-health, comprehensive pathology information and telemedicine.
- An educated, highly skilled workforce with access to world class training facilities.

- Attractive location for clinical trials with sophisticated academic health translation research infrastructure.
- Home to two of Australia's leading biopharmaceutical contract manufacturers.

## Find out more

Visit [Trade and Investment Queensland](#).



## Sanofi mRNA Translational Science Hub

Global healthcare company Sanofi is establishing a A\$280 million mRNA Translational Science Hub in Brisbane. Queensland Government, the University of Queensland and Griffith University will also support the hub.

The hub is a first-of-its-kind collaboration that connects researchers in Queensland with Sanofi scientists from the mRNA Centre of Excellence in France and the US. The aim of the hub is to improve mRNA technology and develop vaccines for infectious diseases. This includes the first ever vaccine for chlamydia.

The presence of requisite clinical infrastructure sees the hub leverage Queensland's research expertise in infectious diseases and vaccinology.

'Queensland has some of the best universities for science research. The Queensland Government has a clear vision for investing in the state as a location for knowledge-based, high-tech industries. This is why the Translational Science Hub will be located across the Sunshine State,' says Dr. Iris Depaz, Sanofi's Country Medical Lead in Australia and New Zealand.



## Thermo Fisher (Patheon): Partnering to make biopharma innovations possible

Thermo Fisher Scientific, together with its pharma services brand Patheon, supports Aussie biotech firms to make biopharmaceuticals locally. It is the first company in Australia to contract manufacture drugs on a commercial scale using mammalian cell lines.

The Queensland-based facility provides end-to-end technical capabilities for clinical and commercial grade biopharmaceuticals. The facility employs more than 210 staff and collaborates closely with universities to make sure science and engineering graduates are highly trained and job ready.

The co-location of Patheon with the Translational Research Institute and the Princess Alexandra Hospital promotes research, industry and clinical collaboration. Thermo Fisher Scientific has partnered with Brisbane-based NuNerve to develop a new drug that treats motor neuron disease. The promising intervention is based on research by the Queensland Brain Institute and the QIMR Berghofer Medical Research Institute. Now approved for the commercial production of three products, the company is expected to commercialise five late-phase programs in the coming three years.

# South Australia: connected innovation

South Australia brings an end-to-end clinical trial value chain together with leading infrastructure and digital capabilities. This collaborative network is at the forefront of drug development, advanced manufacturing and health innovation globally.

## End-to-end clinical supply chain

South Australia's world-leading clinical trial services provide a strategic entry point for engagement with the Australian clinical trial supply chain.

The state's local end-to-end capabilities for drugs, medical devices and digital health products include some of the most established and experienced providers in Australia. Services span tax and advisory, ethics, contract research organisations, bioanalysis, GMP manufacturing and logistics services. The unique co-location of institutes with public and private health facilities, government and industry creates the collaborative network to help clients navigate the Australian ecosystem.

*'CMAX Clinical Research, Avance Clinical and Agilix Biolabs are all global leaders in their fields and bring a level of experience and rigour that is unparalleled. The fact that they are all headquartered in the city of Adelaide, within its BioMed hub, is another significant advantage.'*

*Dr Lewis Neville, CEO, SuperTrans Medical*

## Artificial intelligence and data analytics

Adelaide is home to world-leading AI and data analytics capabilities, supported by unique clinical infrastructure and datasets providing a location for cutting-edge clinical research, and drug development.

The Australian Institute for Machine Learning (AIML) has globally ranked capability in AI, machine learning, computer vision and deep learning. AIML is a member of the global Alliance of Centers of Artificial Intelligence in Medicine, which includes Stanford University, Harvard University and the Mayo Clinic. Many of the world's leading pharma and digital companies like Roche, GSK, Medtronic, Siemens and Google have established in Adelaide to push the frontier of precision health.

## Transforming oncology

Adelaide drives the translation of new discoveries as a priority focus for clinical practice for oncology.

Key opinion leaders guide oncology research and translation in areas including precision health, CAR-T technology, computational systems, epigenetics, single cell and spatial technologies, gene regulation, molecular signalling and genomics.

## Find out more

Visit [Invest South Australia](#).



## Avance Clinical: accelerating end-to-end therapeutic development

Avance Clinical has provided Contract Research Organisation (CRO) services in the Asia-Pacific for more than 26 years. It offers pre-clinical support via an experienced ClinicReady team, right through to Phase I and II clinical services.

Avance Clinical helps biotech companies conduct early phase trials in Australia and New Zealand. In 2022, it acquired long-term US partner CRO. This allowed it to expand its offerings to the US through a range of clinical development programs. As of January 2023, more than 40 biotech clients have taken advantage of this approach.



# Victoria: a world-leading biotech hub

Victoria's premium medical and scientific infrastructure powers advanced therapeutic research and development. The state is a world leader in regenerative medicine and mRNA innovations, efficient clinical trials, and next-gen pharmaceutical manufacturing.

## Victoria's biomedical research ecosystem

Victoria has one of Australia's largest biotech networks, comprising homegrown success stories like CSL and Aspen Medical. The ecosystem is supported by:

- More than 300 clinical trial sites across 20 providers.
- 22 globally recognised medical research institutes.
- Seven major teaching hospital networks.

*'The Victorian Government is very forward-thinking in terms of fostering Melbourne's biotech industry. They helped us address regulatory barriers and accelerated our construction plans. The state wants to create a local biotech industry on par with Boston and Oxford.'*

*Michael Azrak, General Manager, Moderna Australia & New Zealand*

The Victorian biomedical community is highly collaborative, backed up by co-located hubs and strong informal networks. Its research precincts, including the Melbourne Biomedical Precinct and the Monash Precinct, draw graduates with Doctorate and Master's degrees. Industry placement programs and teaching hospitals offer access to a talent pool of more than 90,000 life sciences professionals.

Victoria has more than 300 clinical trial sites, with key strengths in cancer, infectious diseases, and neuroscience-based diseases. Victoria offers specialised clinical research infrastructure, including:

- **CCRE Clinical Trial Centre:** a coordinating site for several large-scale national and international studies.
- **Melbourne Children's Trial Centre:** working on a wide range of clinical indications in children including cancer.
- **Nucleus Network:** Australia's largest phase 1 clinical research organisation with phase 1 facilities in the US and Australia.
- **Peter MacCallum Centre:** a global leader in the development of new and targeted approaches for cancer treatments.

## Investments fuelling industry growth

Take innovation from concept to clinic with Victoria's globally connected biomedical ecosystem. World-leading organisations including Moderna, Merck, Benitec Biopharma, BioNtech, Roche Holding, and Siemens Healthineers are tapping into the state's many advantages.

The Victorian Government has invested A\$15 billion in medical research in the last 10 years. This includes:

- A\$650 million to build the new Australian Institute for Infectious Disease.
- A\$75 million to the new Cumming Global Centre for Pandemic Therapeutics.
- A\$577 million to the Victorian Heart Hospital, Australia's first stand-alone, state-of-the-art cardiac facility.

## Find out more

Visit [Invest Victoria](https://invest.vic.gov.au) or contact [info@invest.vic.gov.au](mailto:info@invest.vic.gov.au)

## Case study

### Moderna's new biotech facility supports talent development

The success of its COVID vaccine has meant rapid growth for Moderna. In August 2022, the company announced that – in partnership with the Australian and Victorian Governments – Melbourne would be the home of a huge new investment in life sciences research and manufacturing.

The facility in Melbourne's life sciences precinct will have capacity to make up to 100 million vaccine doses per year for respiratory viruses such as COVID, influenza and respiratory syncytial virus (RSV). What's more, Moderna will establish a new, regional mRNA research centre in Melbourne. This will become a hub for research into respiratory viruses and tropical diseases across the Asia-Pacific.

'Our new Melbourne centre will be a hub for the Asia-Pacific,' says Michael Azrak, General Manager for Moderna Australia & New Zealand. 'It will link together academic work that's being done in research institutes across the region – and look at how mRNA treatments can help combat diseases that need medical solutions.'



# Western Australia: blending medical solutions with enviable lifestyle

Western Australia is the perfect destination for blending good business with an enviable lifestyle. Australia's western capital, Perth, is a well-positioned gateway to the Asia-Pacific and is regarded as one of the world's most liveable cities.

## A biodiversity hotspot

Western Australia (WA) is fast becoming a global hub for health and medical life sciences. Between 2016 and 2021, the industry here has more than doubled from 119 companies to 244. The sector employs nearly 24,000 people.

WA's expertise extends to niche and specialised technologies, such as rare diseases and 'omics' technologies. The unique natural environment has helped shaped innovative solutions in telemedicine and remote patient monitoring.

The wealth of natural genetic material found in the state's eight biodiversity hotspots and their potential commercial applications present endless opportunities for the life sciences industry.

## Global research hub

WA's niche know-how is underpinned by world-leading research infrastructure spanning universities, teaching hospitals, research institutes and clinical trial facilities.

The state is home to 21 research institutes and foundations such as the Perth Children's Hospital and Fiona Stanley Hospital. These support clinical advancements in neurological conditions, respiratory health, cancer research and infectious disease.

WA's health and medical life sciences industry is underpinned by a 10-year Health and Medical Research strategy. Research is further supported by the Future Health Research and Innovation (FHRI) Fund. The interest from the A\$1.6 billion sovereign FHRI Fund provides a sustainable source of funding, to drive health and medical research and innovation.

With a prosperous start-up scene, world-class infrastructure and a pipeline of research opportunities, WA's thriving life sciences industry delivers innovation and excellence, making it a secure place to do business.

## Find out more

Visit [Invest and Trade Western Australia](#) or contact [lifesciences@jtsi.wa.gov.au](mailto:lifesciences@jtsi.wa.gov.au)

Case  
study

## Western Australia a destination of choice for clinical trials

Western Australia has high quality clinical trial capacity, led by the globally renowned Linear Clinical Research. Linear was founded in 2010 by Harry Perkins Institute of Medical Research. The world-class, purpose built, state of the art clinical trials facility operates out of the QEII medical centre.

Linear is an early phase clinical trials facility, with the most technologically advanced trial facility and the most active Phase 1 cancer trial team in the Asia Pacific. It has also opened a new early phase facility to expand its current capacity and increase trial access.

Case  
study

## Epichem: Cultivating the future of science

Epichem provides services in synthetic and medicinal chemistry to the drug discovery and pharmaceutical industries. Formed in 2003, the company has been consistently recognised as one of the state's top exporters and one of Australia's most esteemed PhD employers.

'A key reason why Epichem was created was to build, support and retain a highly skilled and talented workforce of research scientists outside of universities in WA,' says Fiona Milner, Epichem CEO. 'The time and attention to detail the team are willing to put in, to assist our clients achieve their goals, is truly remarkable. We are so thankful to have them working in this organisation.'

The Western Australia Life Sciences Innovation Hub (WA Hub) has been integral in connecting the life sciences community network in Western Australia. Epichem has engaged closely with the WA Hub over the years. 'I'm excited to say that the state of the sector is in our collective hands,' Ms Milner says.



