



GOVERNMENT OF
WESTERN AUSTRALIA

Western Australia

A centre for health and medical solutions

OCTOBER 2022



Minister Foreword

Since the start of the COVID-19 pandemic in early 2020, we have all gained a firsthand understanding of how innovative healthcare solutions are vital to our everyday lives.

From unlocking the power of RNA vaccines to the development of lifesaving antiviral drugs, and advances in contactless healthcare delivery, the breakthroughs of the health and medical life sciences industry are propelling our emergence from the pandemic.

Western Australia has potential to play a leading role in developing the healthcare solutions of tomorrow. Not only to provide Western Australians with access to cutting edge health products and services, but also to share these advancements globally to support wellness worldwide.

Western Australia has a long and storied history in health and wellness, reaching back 60,000 years with our traditional owners use of native botanicals for physical and spiritual healing. This spirit flows into modern day with our strong local research and development capability, including five world-class universities and 21 research institutes and foundations.

Our health and medical life sciences industry is rapidly growing. In five years to 2021, it has doubled from 119 companies to 244, employing nearly 24,000 employees across the sector, research institutions and support organisations.

We have a long-standing global reputation for delivering outstanding quality in everything we do and produce.

This reputation is built on our unique strengths and capabilities, including our highly-skilled

workforce, abundant resources and our exceptional research and education. It is enhanced through the State's good governance, regulation and whole-of-economy commitment to achieving outstanding environmental, social and governance (ESG) outcomes.

We are committed to harnessing these strengths, and nurturing the health and medical life sciences industry in Western Australia.

In June 2020, we initiated our State's most ambitious endeavour to support growth in this industry, creating the Future Health Research and Innovation (FHRI) Fund, which is now valued at \$1.6 billion.

The FHRI Fund provides a secure source of funding to drive health and medical research, innovation and commercialisation, and through these activities, improve the health and prosperity of all Western Australians.

To complement the FHRI Fund, in October 2021, we launched the State's first-ever Health and Medical Life Sciences Industry Strategy.

A further \$8.7 million is being invested to implement the strategy, which outlines the growth potential of the industry to create highly skilled jobs and improve patient outcomes, building on Western Australia's many strengths as an investment, research and manufacturing hub.

Supported by our robust supply chains, a reliable trading record and a collaborative approach to investment, Western Australia is an ideal partner for businesses across the globe.

We invite you to explore the cutting-edge opportunities offered by our health and medical life sciences industry.

Hon Roger Cook MLA
Deputy Premier; Minister for State Development, Jobs and Trade; Science

Hon Stephen Dawson MLC
Minister for Emergency Services; Innovation and ICT; Medical Research; Volunteering

Acknowledgement of Country

The Western Australian Government acknowledges the Traditional Custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of Aboriginal and Torres Strait Islander communities and their cultures, and to Elders past, present, and emerging.

Health and Medical Life Sciences in Western Australia

Western Australia is fast becoming a global hub for health and medical life sciences with our proximity to the growing ASEAN market and strong health leadership.

As global demand for health care is growing, consumer interest and involvement in health care decision-making has never been greater.

Western Australia has the skills, research capabilities, infrastructure, clinical trial facilities and business environment to meet the increasing interest and demand for digital health innovations, pharmaceutical product development and the growing importance of data and data analytics in healthcare solutions.

Western Australia's strength in remote operations, leveraged from our world leading resources and energy sector, is supporting the development of unique medtech solutions utilising automation, artificial intelligence and systems integration to improve health and wellness.

With an international centre of expertise in metabolic phenotyping based in Perth, Western Australia's "omics" capability is at the forefront of delivering precision health capability to address the most challenging health issues.

The State is a favoured destination for research and clinical trials, with a diverse community with limited transience, and a significant first nations population. Our rich health data sets, coupled with a strong data science capability and supercomputing infrastructure is able to support the growing global need for informatics in biological, medical and health fields.

With growing public interest and the expectation of more rapid advancement of new health and medical solutions, comes the need for more responsible, transparent and stable product development practices is needed.

Western Australia is perfectly positioned to provide the experienced, responsible, balanced health and medical life sciences ecosystem to meet these changing expectations.

As Australia's western capital and gateway to the ASEAN and Indian Ocean region, with strong trading partnerships in both regions and beyond, Western Australia is a clear choice for global health businesses looking to expand.

The Western Australian Government is committed to supporting this important industry.

We invite you to learn more about Western Australia's unique set of strengths and capabilities and why it is a smarter, more secure place to do business.



Western Australia's capability

Western Australia's significant expertise in industry is underpinned by world-leading research infrastructure, including universities, teaching hospitals, research institutes and clinical trial facilities.

Universities

Western Australia's research infrastructure includes five universities, Curtin University, Edith Cowan University, Murdoch University, The University of Notre Dame and The University of Western Australia, all of which have substantial offerings in life sciences. Three of these universities include a medical school and all offer qualifications in biomedical science.

Highlights

The world-class research base in Western Australian universities has supported the development of 6 of the 15 Food and Drug Administration (FDA) approved drugs emanating from Australian universities. These include the Duchenne muscular dystrophy treatments eteplirsen (Exondys 51), golodirsen (Vyondys 53) and casimersen (Amondys 45), which were developed by Professors Steve Wilton AO and Sue Fletcher AO while working in Western Australian universities.

Hospitals

Western Australia has several technologically advanced hospitals that conduct world-class health and medical research. These include 2 recently commissioned hospitals – Perth Children's Hospital and Fiona Stanley Hospital.

In 2020, Perth Children's Hospital reported 488 active research studies while Fiona Stanley Hospital reported 174 research project approvals. The WA Government has committed a further \$1.8 billion toward the construction of a new world-class Women and Babies Hospital. These hospitals are within a health system that provides comprehensive health services across more than 2.5 million square kilometres.

Highlights

Western Australian hospitals play a vital role in medical research and innovation. The Royal Perth Hospital (RPH) has a strong culture and tradition of innovation. In 2006, RPH established Cell and Tissue Therapies WA as a manufacturer of cellular and tissue therapeutic goods to meet the demands of current and emerging biotherapies and increased regulatory requirements. Manufactured products include mesenchymal stromal cells (MSCs), serum eye-drops, mononuclear cells, granulocytes, and hematopoietic progenitor cell grafts (HPCs) from bone marrow, whole blood, and apheresis collects.



Image credit: WA Health



Research institutes

Western Australia is establishing its position as a global research hub. The State is home to 21 research institutes and foundations that support clinical advancements in such disciplines as ear and eye science, neurological conditions, respiratory health, cancer research and infectious disease.

Highlights

Operating since 1990, Telethon Kids Institute is Western Australia's largest medical research institute and is dedicated to improving the health, development and lives of children and young people through excellence in research. With a dedicated and diverse team of around 1,000 staff, students and honoraries, Telethon Kids Institute researchers are responsible for the discovery or contribution to real game-changers in children's health including; co-discovering the homeobox gene HOX11/TLX1 that drives T-cell leukaemia in children and identifying prognostic markers for patients; and being the first to introduce insulin pump therapy to children with diabetes in Australia and being at the forefront of trials of an artificial pancreas.

Clinical trials

Western Australia has high quality clinical trial capacity, led by the globally renowned Linear Clinical Research. Linear was established in 2010 as a world-class, purpose-built, state of the art clinical trials facility operating out of the Queen Elizabeth II medical centre. It is the result of a visionary collaborative venture between the Harry Perkins Institute of Medical Research and the WA Government.

Linear is Australia's 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.

Highlights

Australia's regulatory standards mean that Linear's clinical trials are completed 6 months faster than in the US and at up to half the cost. Linear were instrumental in supporting clinical trials of a novel therapeutic associated with preventing and managing COVID-19.



Image credit: Perth Children's Hospital

Cross-sector integration

Western Australian institutions have become adept at leveraging state of the art healthcare infrastructure with leading edge research and development capability, integrated into a clinician led research and care continuum which brings the best science to the bedside.

Highlights

Western Australia is taking a global leading role in establishing a Rare Care Centre that will provide a holistic and cross-sector model of care for children with rare and undiagnosed diseases. The Centre opened in October 2022 and is delivering improved awareness and early identification of children with potential rare diseases and enhanced referrals to support earlier and more accurate diagnosis.

It will provide improved support and care coordination; and better access to community resources, clinical trials and research. The Centre will also focus on Aboriginal health and mental health, connecting the child and their families with a wider range of services, such as education and disability services.

Funding from donors is supporting development of an education centre, global partnerships, research collaborations, support programs and advocacy for rare and undiagnosed diseases. The Centre is a leader in the new World Health Organisation Global Network for Rare Diseases and is attracting and retaining world leading experts from the Asia-Pacific region and beyond.



Northern corridor

Edith Cowan University, Joondalup Health Campus, Telethon Kids Institute presence, North Metro TAFE state-of-the-art simulation hospital, and new ORIGINS Project.

Western corridor

QEII Campus, The University of Western Australia, Telethon Kids Institute, Linear Clinical Research, new Perth Children's Hospital, Harry Perkins Institute of Medical Research, the Western Australian Life Sciences Innovation Hub, and the Western Australian Health Translation Network headquarters.



Central Business District

Royal Perth Hospital, RPH Medical Research Foundation, university cluster and innovation collaboration spaces.

Perth

Swan River



Eastern corridor

Curtin University Bentley, new Midland Hospital Campus, Chemcentre, Pawsey Supercomputer, WA Data Science Innovation Hub, and new biobanking centre.

Fremantle



Southern corridor

Murdoch University Health Precinct including the Australian National Phenome Centre, Fiona Stanley Hospital, State Agricultural Biotechnology Centre, Harry Perkins Institute of Medical Research South and the Animal Resource Centre.

Health and medical life sciences clusters

Western Australia's universities, hospitals, research institutes and other life science organisations have facilities and infrastructure located in multiple clusters around the metropolitan area.

Commitment to industry

Western Australia's inaugural Health and Medical Life Sciences Industry Strategy was launched in October 2021 to guide the WA Government's efforts for strategic development of the industry by building on the State's comparative advantages.

The strategy supports the State's economic development framework, Diversify WA, which identifies health and medical life sciences as a priority sector for Western Australia.

The WA Government is committed to continuous improvement in health outcomes, to provide access to cutting edge health products and services, create jobs and diversify the economy.

\$8.65 million has been committed for the implementation of the strategy and will build on current initiatives to strengthen the industry over the next 4 years. At its core, the strategy aims to position the health and medical life sciences sector in Western Australia as a world-leading, sustainable and value-adding industry.



Western Australian Life Sciences Innovation Hub

In 2017, the WA Government partnered with MTPConnect and the University of Western Australia, to co-fund and create the state's first innovation hub dedicated to health and medical life sciences. It is one of four WA Government Innovation Hubs (together with WA Data Science, WA Creative Technologies and AustCyber WA) that deliver programs to connect the innovation community, build capacity and new skills, attract investment and foster commercialisation.

Since its inception, the Western Australian Life Sciences Innovation Hub (WALSIH) has supported the life sciences industry in Western Australia by enhancing the sector's innovation, productivity and competitiveness.

WALSIH is stimulating economic and jobs growth and improving patient outcomes in Western Australia by focusing on growing local opportunities in:

- » digitally enabled MTP solutions – particularly for rural and remote applications
- » development of medical devices
- » precision medicine and regenerative medicine products and services
- » clinical trials and development of pre-clinical expertise and capability
- » skills development in product translation and commercialisation
- » investment attraction

Future Health Research and Innovation (FHRI) Fund

The WA Government repurposed its \$1.6 billion state sovereign wealth fund to create the Western Australian Future Health Research and Innovation (FHRI) Fund, allowing interest earned to be directed to WA-based health and medical research, innovation and commercialisation, for perpetuity.

Through these activities the FHRI Fund aims to improve the health and prosperity of all Western Australians. It also provides an opportunity to diversify the economy, create jobs, improve the sustainability of the health system and position WA as a leader in research and innovation.

Over the first two years, the Fund has awarded \$63.6 million in grants to 364 recipients in the academic, public, private and not-for-profit sectors.

Significant programs include the Innovation Seed Fund, which provides the opportunity for WA health and medical innovators to develop and commercialise their innovations, create high-level health sector jobs and enhance the production/manufacturing capacity of the State; and Innovation Fellowships designed to build the innovation and entrepreneurial skills and expertise of talented individuals in WA.



Western Australian based opportunities

Precision health capability

With strong capabilities in “omics” technologies and rare diseases, and utilising our burgeoning strengths in data analytics, artificial intelligence and predictive diagnostics. Western Australian companies are achieving cost effective, efficacious and precise solutions to the most challenging issues and illnesses.

Highlights

The Australian National Phenome Centre (ANPC), located at Murdoch University’s Health and Knowledge Precinct, is the international centre of expertise in metabolic phenotyping and one of the most significant health research collaborations realised in Western Australia. Led by Murdoch University and housed in the Harry Perkins Institute (South), the ANPC is a powerful resource for researchers, enabling them to examine the complex interaction and influence of genes, the environment and lifestyle on human and animal health.

Access to health data

Western Australia has established world-leading databases of health information, and data linkage capacity to connect and extract data to support advances in healthcare.

WA Health databases and related data linkage capacity have proven to be resources of immense value to the Western Australian health and medical research sector, and have resulted in many publications and research grants, as well as having an impact on health policy and practice.

Highlights

Australian Rare Disease Registry – WA Health is leading the nation with the development of a national plan for rare diseases and a rare disease register.

Busselton Health Study is a longitudinal and cross sectional health database, started in 1966 with nearly 30,000 participants. The world class population health data set is amongst the longest running epidemiological studies in the world.

Western Australian Pregnancy Cohort Study – The 'Raine Study' is a dataset collected from 2,900 pregnant women and their children. The contains 20 million pieces of genetic information and more than 70,000 phenotype measurements.

Western Australia also hosts strong data science infrastructure and high performance computing.

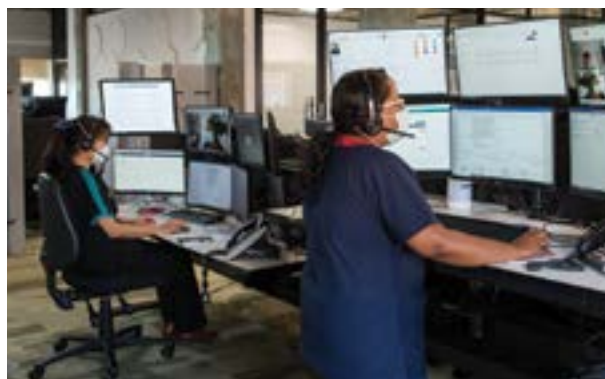
Image credit: East Metropolitan Health Service

Autonomous and remote operations, robotics and systems integration

Western Australia is a global leader in autonomous and remote operations, robotics and systems integration that have been developed by the resources and energy sector. These capabilities are being applied to other sectors including health and medical technologies, especially as we implement comprehensive health services across more than 2.5 million square kilometres.

Case study

The Royal Perth Hospital has developed a new \$22 million Health in a Virtual Environment (HIVE) patient monitoring system that allows clinical experts to remotely monitor patients in selected hospital ward beds on a 24/7 basis. The service is enabled by an artificial intelligence (AI) platform that interacts with a range of medical devices and clinical applications to identify subtle changes in patients' conditions and detect early signs of clinical deterioration. HIVE clinicians are alerted to these early signs and will work with ward based staff through audio visual technology to improve patient outcomes. This approach is enabling patients to leave hospital earlier and with better health outcomes.



Why do business in WA

Strong Research Base

Western Australia has an internationally recognised research base and significant entrepreneurial talent in health and medical life sciences, achieving both scientific excellence and commercial success. Researchers, experienced clinicians, entrepreneurs and innovators who have the expertise and ability to contribute to the growth and competitiveness of the industry are already here in Western Australia. Their expertise extends to niche and specialised technologies, such as rare diseases and 'omics' technologies.

Vibrant health and medical innovation ecosystem

Our health and medical life sciences sector is developing advances in health care, with a growing pipeline of promising early stage companies and increasing capability in advanced manufacturing.

Our sector is supported through a mix of universities, public hospitals, non-governmental organisations and private companies. Support is provided through government funding, private investment, foundations and philanthropic contributions.

Commitment to green energy and waste management

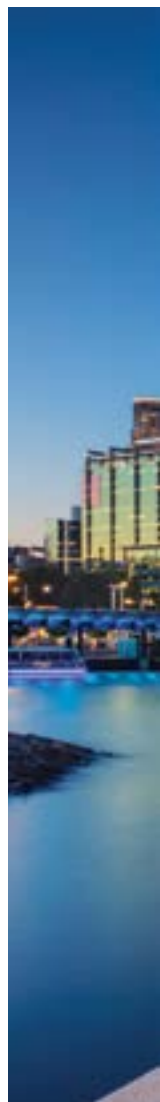
Western Australia has invested \$160 million to support the development of a renewable hydrogen industry and \$750 million to a Climate Action Fund which includes \$206 million for renewable energy initiatives and \$118 million for investment in future climate related initiatives. The State has also committed to better waste management including a ban on e-waste from landfill from 2024 and improvements to waste management within clinical settings.

Digital capability and security

Western Australia aims to be at the forefront of the digital revolution by increasing the uptake, education, training and awareness of data science and cyber security. The State has invested in the WA Data Science Innovation Hub and WA Austcyber Innovation Hub to grow this sector and hosts strong data science infrastructure and high performance computing to deliver the processing requirements researchers and businesses need. Facilities include the DownUnder GeoSolutions, which provides high performance computing as a service and is powered by green energy solutions, and the Pawsey Supercomputer with its new quantum processing capabilities. This new installation at Pawsey represents the first integration of quantum computing systems in a supercomputing centre, and will be used to demonstrate and test hybrid models of quantum and classical computing.

A global network

Western Australia's network of global investment and trade offices provide support and information for worldwide investors and buyers. The State's close proximity to major markets and outstanding international connectivity result in an economy that is export-orientated – with around half of Australia's exports of goods originating from Western Australia each year. Western Australia also has time zone proximity with more than half of the world's populations, and its counter geographic location to Europe and North America enables work to continue across time zones for 24 hours if required.





Unique natural environment

Western Australia's unique natural environment has shaped local expertise and know-how and is a key comparative advantage to developing niche health and medical life science products. In particular, the vast distances in the state's regional and remote areas have spurred advances and innovations in telemedicine, which are supported by world-leading expertise in remote mining operations.

The wealth of natural genetic material found in the state's eight biodiversity hotspots and their potential commercial applications present bio-prospecting opportunities for researchers and industry practitioners to identify characteristics in native flora and fauna that could have commercial applications in health.

A great place to work and live

Western Australia is a great place to live, work, do business and explore. We have an enviable climate, pristine coastline, unique wildlife, natural wonders, as well as globally significant biodiversity. Western Australia's capital city Perth consistently rates as one of the most liveable cities in the world.

Investment and project support

The Western Australian Government actively supports efforts to accelerate the development of the local industry via:

- » Access to a one-stop-shop for incoming trade and investment enquiries
- » Identification and facilitation of access to industrial land
- » Project approvals facilitation services to help you navigate our project approvals process efficiently and effectively

- » Introductions across the supply chain
- » Identification of relevant Western Australian and Australian Government funding opportunities when they become available.

The State has committed:

- » \$180 million for an Investment Attraction Fund
- » \$50 million to an Industrial Land Fund to help unlock strategic industrial sites.



Where to start

The Western Australia Government will make your entry into Western Australia as seamless as possible.

The Department of Jobs, Tourism, Science and Innovation's Invest and Trade Western Australia team provides a one-stop shop for incoming trade and investment enquiries.

At Invest and Trade Western Australia, a team of business facilitation professionals will work with you to assess your business requirements and connect you with relevant government and industry stakeholders, to fast track your entry into Western Australia.

Through a network of local and international offices, the team can help you navigate the Western Australian investment and trade ecosystem. Invest and Trade Western Australia can help you by providing:

- » a dedicated point of contact for your business or project
- » introductions to local relevant suppliers, consultants, organisations, agencies and industry bodies
- » investment ready project support
- » assistance with site visits
- » a guide to working in Western Australia - business registration, property, visas, banking, employment standards and Australian tax – to accelerate investment
- » access to relevant and timely market intelligence to assist you to develop your market entry strategy
- » advice on business support grants, funding, incentives and projects.



Contact us

Please contact the Invest and Trade Western Australia team at investandtrade.wa.gov.au



Department of
**Jobs, Tourism, Science
and Innovation**

Department of Jobs, Tourism, Science and Innovation
Level 11, 1 William Street
Perth WA 6000

T: +61 (08) 6277 3000

E: investandtrade@jtsi.wa.gov.au

W: www.investandtrade.wa.gov.au

Disclaimer

The information is provided in good faith and believed to be accurate and current at the time of publication but this cannot be guaranteed. The State of Western Australia makes no representation, warranty or claim of any kind (express or implied) about the completeness, accuracy, reliability or suitability, with respect to the information. The reader is solely responsible for making their own assessment of the information and should make and rely on their own enquires, research and judgements in making decision affecting their own or any other persons' interest.

To the fullest extent permitted by law, the State of Western Australia, its officers, employees, agents and representatives, shall in no way be liable, in negligence or howsoever, for any loss, damage, cost or expenses (regardless of whether the loss is direct, indirect or consequential) caused, sustained or incurred by anyone using or relying on the information, even if such information is or turns out to be wrong, incomplete, out of date or misleading.