



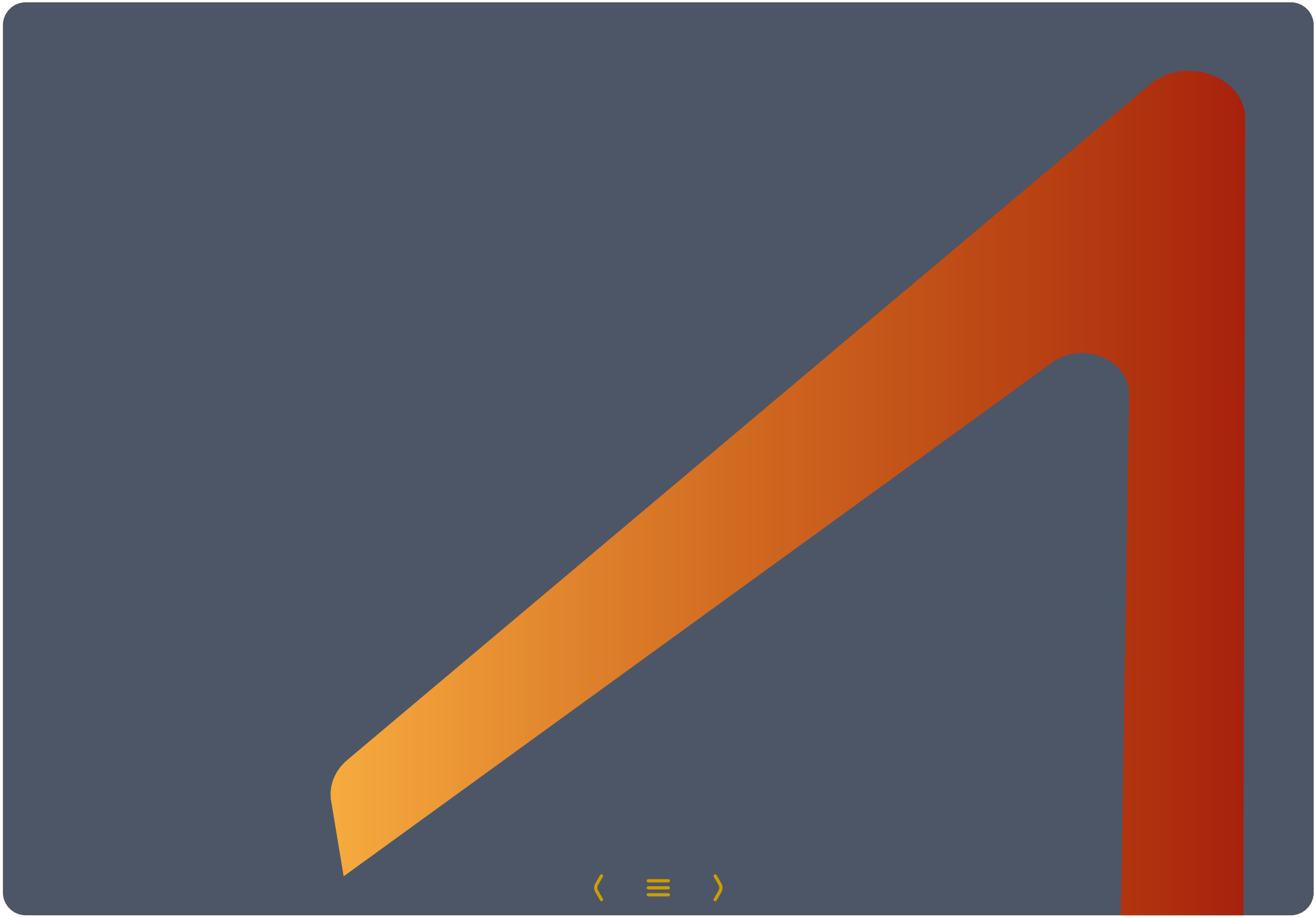
Government of **Western Australia**
Department of **Health**

WA Future Health Research and Innovation Fund Strategy 2020–2022

Activating research and innovation



Western Australian
Future Health Research
& Innovation Fund





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Foreword

I am delighted to present the *Future Health Research and Innovation Fund Strategy 2020–2022: Activating research and innovation*.

Medical research is one of our oldest traditions.

For tens of thousands of years, we searched across our ancient landscape looking for substances to heal injury and illness on an unending quest for wellness. Whether it was extracting active ingredients from plants or combining minerals and salts, our pursuit of medicines and treatments has been a foundation block for our civilisation.

Today we carry on that tradition, continuing to build our knowledge of our relationship with the world around us and seeking new ways to improve our wellbeing and deliver better health services. Western medicine has been integral to people's happiness and wellbeing and has made an immeasurable contribution to economic progress. It stands on the shoulders of many thousands of years of knowledge and discovery.

Our local flora and fauna have provided effective traditional medicines whose therapeutic properties raise prospects of new drug discoveries ahead. The technologies have changed but the principles remain the same. We live in a time of rapid sociological, technological and climatic change which threatens our wellbeing, but those principles of experimentation, adaptation and innovation will help us rise to the challenge.

Never has this been more apparent than in the response to COVID-19. The importance of public health and need for a vibrant, well-connected health and medical research and innovation ecosystem was made clear, and to ensure that Western Australia continues to play its part, the State Government has established the Future Health Research and Innovation Fund. This will provide a secure, long-term source of funding to support the development of the sector



through high-calibre initiatives. It will allow us to pursue strategic objectives and realise a vision for our brightest, most innovative minds to build on.

Many West Australians remain healthy as they age, however the total disease burden in those aged over 65 years has increased in Western Australia over recent years. The costs of health care are increasing as new diagnostics and therapeutics are developed and Western Australia has the added challenge of providing equitable access to services across a vast area. Personalised medicine and precision public health promise more effective application of treatments and interventions but financial sustainability is challenging. The Sustainable Health Review provides a blueprint for the development of our health system over the coming years and it recognises the importance of research and innovation in addressing that challenge.

We have worked closely with stakeholders to develop a strategy for the next three years, which will provide direction for the Future Health Research and Innovation Fund activities and enable Western Australia to respond to current and future opportunities. The result is the *Future Health Research and Innovation Fund Strategy 2020–2022: Activating research and innovation*.

This Strategy marks the start of a journey to accelerate the development of health and medical research and innovation in the State, stimulating economic and workforce growth by attracting investors, and creating new industries and specialised jobs. It will direct resources to areas of the highest need or opportunity.

I thank all stakeholders for contributing to development of the Strategy, and I look forward to working together over the coming years to transform research and innovation in Western Australia, and improve the health of all Western Australians.

Hon Roger Cook MLA
Minister for Health

Executive summary

The *WA Future Health Research and Innovation Fund Strategy 2020–2022: Activating research and innovation* (the Strategy) is an essential element of the Government of Western Australia's (WA's) vision for a sustainable research, innovation and commercialisation ecosystem in WA.

The Strategy has been developed to support the State Government's Western Australian Future Health Research and Innovation (FHRI) Fund, which represents an exciting long-term, strategic approach to investment into research and innovation.

The FHRI Fund will advance the health and prosperity of all Western Australians. It aims to improve health outcomes, develop a more efficient health system, increase the economic prosperity of WA and elevate the State's standing as a centre of excellence in health and medical research, innovation and commercialisation.

For the next three years, the FHRI Fund will rely on the Strategy, and defined Priorities, to guide the development of Programs and Initiatives which ensure that public money will be best applied to support health and medical research and innovation.

The inaugural Strategy (this document) has been developed through extensive consultation with stakeholders and in consideration of important policies, reviews, reports and strategic documents.

It lays the foundations for future strategic investment, and contributes to growing the WA health and medical research and innovation ecosystem.

The Strategy addresses objectives across four strategic themes:



1. People

Build capability through education and training of WA's consumer advocates, researchers and innovators; provide opportunities for researchers and innovators to build long and diverse careers; support outstanding and emerging researchers and innovators by providing opportunities to achieve sustained excellence; and improve exchange among agents and/or sectors to identify new research and innovation opportunities and effect positive change to policy and practice.



2. Partners

Catalyse local, national and international partnerships to advance a culture of collaboration to enable multidisciplinary and cross-sectoral research and innovation; identify and work with co-funding partners, health services, research collaborators, Government departments and industry to secure new funding for research and innovation in WA; build the confidence, experience and skills of consumers, making them true partners in all stages of research and innovation; and promote partnerships among researchers and innovators to increase translation and implementation.



3. Platforms

Promote digitally enabling technologies and capacity in data analytics and big data to capitalise on these technologies; enhance data linkage services within the State; enhance the innovation ecosystem; and support new or existing infrastructure that elevates WA as an international leader in a research or innovation field.



4. Policy

Streamline governance and ethical review and reporting; elevate research and innovation in the public health system; and support the growth of local research and innovation.

Future Health Research and Innovation Fund

Future Health Research and Innovation Fund

The purpose of this Strategy is to provide a vision for the FHRI Fund and strategic themes which should be targeted to achieve this vision.

A summary has been provided below which outlines the aims of the FHRI Fund, its governance, and its evaluation, which will ensure that the FHRI Fund will have longevity and operate in a robust, transparent manner.

Aims and scope

The FHRI Fund aims to:

- improve the health and wellbeing of all Western Australians
- improve the efficiency of the WA public health system
- increase the economic prosperity of WA
- elevate the State's standing as a centre of excellence in health and medical research, innovation and commercialisation.

In many instances, research and innovation occur together, but this is not always the case and commercialisation may result from either. Therefore, the FHRI Fund has a broad remit to support the full spectrum of research, innovation and commercialisation activities within WA but will target theme areas that have the greatest potential to further the aims of the Fund.

Governance

The FHRI Fund is overseen by an independent FHRI Fund Advisory Council (Advisory Council) of eminent individuals. Its purpose is to provide high-level strategic advice to the Minister for Health and the Department of Health. The Advisory Council is responsible for developing the Strategy and the Priorities for the FHRI Fund following the term of this inaugural Strategy, developing and implementing assurance measures to ensure that Programs and Initiatives align with the Priorities, and that funding selection processes are conducted appropriately.

Membership of the Advisory Council has been designed to minimise conflicts of interest and comprises a diverse range of experience and knowledge that will include:

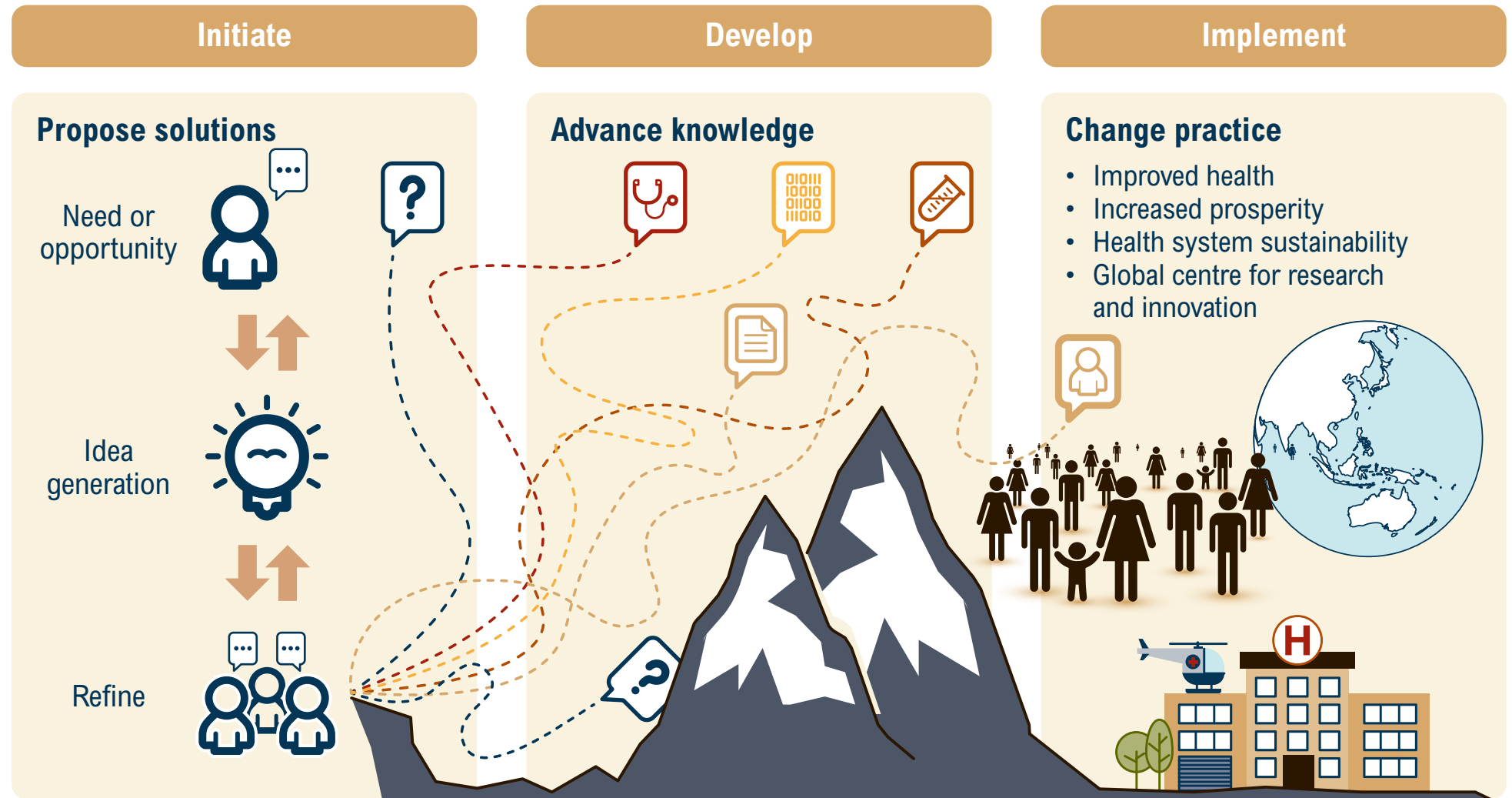
- a person with experience representing the community
- a person considered to be expert in research
- a person considered to be expert in innovation
- the Director General of the Department of Health, or nominee (non-voting)
- the Chief Executive Officer, or nominee, of another State Government Department that the Minister considers is most relevant to the needs of the FHRI Fund (non-voting)
- at least three other individuals whom, taken together, the Minister considers will provide a suitable blend of expertise and experience.

At least one of the Advisory Council members will have experience in dealing with issues related to Aboriginal health. This is in recognition of the Government's commitment to building a new relationship with Aboriginal people and communities and acknowledges the complex health issues that currently face Aboriginal people and communities in WA. Under the Governance Framework, it is preferred that this member will be an Aboriginal person.

At least one member of the Advisory Council will have significant experience in, or knowledge of, country and regional WA health issues.

Expert Committees may be established to support the Advisory Council and the Department of Health by providing advice on specific issues including in regard to Programs and Initiatives and the assessment of proposals for funding.

Research and innovation journey



A comprehensive Governance Framework has been developed for the FHRI Fund which includes:

- an Advisory Council, as described above
- an operational structure that efficiently supports the Advisory Council, Expert Committees, application and selection processes and post-award grant management
- transparent and competitive peer-reviewed selection processes
- effective communications policies and tools to ensure funding processes and decisions are available to all stakeholders
- an Evaluation Framework based on national and international best practice.

Funding source

The FHRI Fund significantly boosts the Department of Health's investment into the health and medical research and innovation sectors, the funding for which has been secured by repurposing the \$1.4 billion Western Australian Future Fund.

The FHRI Fund receives annual credits of one per cent of the State's forecast royalty income so that the capital in the Fund will continue to grow.

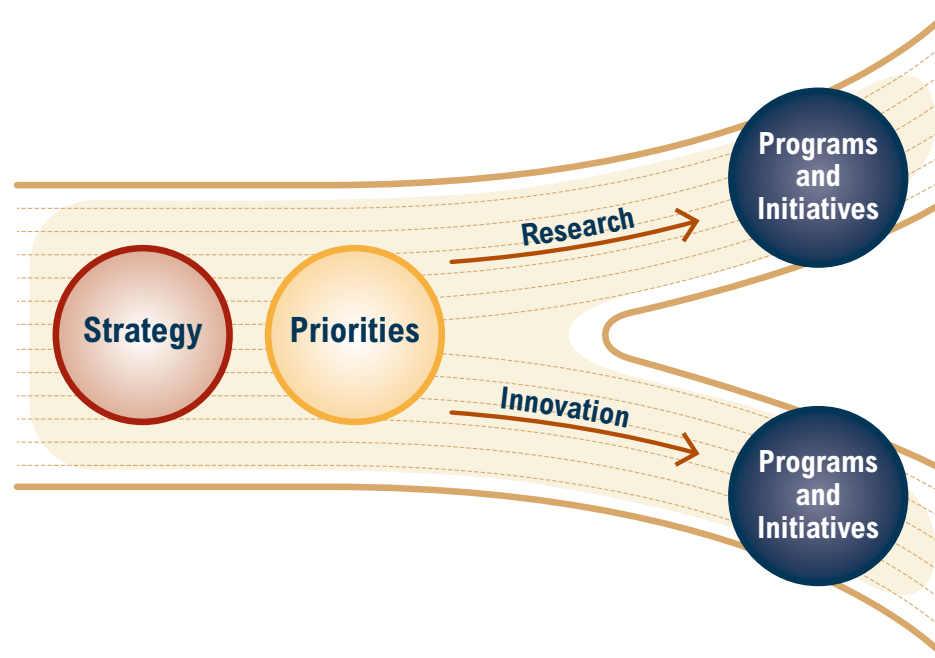
To ensure the longevity of this initiative, the FHRI Fund's capital will be preserved in perpetuity and only the annual forecast investment income will be applied to support health and medical research and innovation. It is forecast that this income will be approximately \$40 million per annum.

Funding allocation

Over the three-year term of the inaugural Strategy, the foundations for the FHRI Fund will be set and key enabling Programs and Initiatives implemented. The investment income made available for health and medical research and innovation will be progressively increased during the three-year term.

The FHRI Fund will have two funding streams:

- Health and medical research.
- Health and medical innovation and commercialisation.



Three key instruments will assist in determining where funding should be focused, and how:

1. Strategy

The Strategy provides a high-level vision and objectives which are aligned with the aims of the FHRI Fund.

The inaugural Strategy has been developed by the Department of Health based on extensive consultation (refer to Appendix 1). The independent Advisory Council will lead development of future Strategies. Strategies are approved by the Minister for Health.

2. Priorities

A Priority is an approach, need or opportunity that is critical to achieving the vision and objectives of the Strategy.

Development of the Priorities related to this inaugural Strategy commenced prior to establishment of the Advisory Council. For the 2020/21 financial year, special priority will be given to research and innovation related to human coronaviruses of pandemic potential. Priorities related to future Strategies will be prepared by the Advisory Council and approved by the Minister for Health. The Advisory Council provides advice on how investment income will be allocated across the Priorities.

3. Programs and Initiatives

A Program or Initiative is a mechanism through which funding is directed to a specific purpose and contributes to achieving one or more of the Priorities.

The Department of Health is responsible for developing, implementing and managing Programs and Initiatives, with assistance from Expert Committees as appropriate. However, the Advisory Council will oversee the Programs and Initiatives and assure they have been developed and implemented appropriately and align with the Priorities. Programs and Initiatives are approved by the Minister for Health, based on the recommendation of the Director General of the Department of Health.

In addition, it is recognised that the research and innovation sectors may identify valuable opportunities that align with the Priorities but which are not necessarily appropriate to apply to a Program or Initiative open to proposals at a given time. These submissions for FHRI Fund support will be considered in line with the State Government's *Market-led Proposals Policy*¹ and processes to provide a clear, transparent and consistent pathway.

Evaluation

The State Government, research and innovation sectors and the public expect the FHRI Fund to deliver on its aims to improve the health of Western Australians, the financial sustainability of the WA public health system, the State's economic prosperity, and to advance WA's national and international standing in research and innovation.

An Evaluation Framework has been developed which will measure performance against the aims of the FHRI Fund.

Development of the Evaluation Framework is informed by national and international best practice and consultations with stakeholders such as the Australian Government's Medical Research Future Fund, National Health and Medical Research Council, the Biomedical Translation Fund, and Research Australia.

It will apply to research and innovation activities supported by the Fund, including their impact, and report on operational performance.

The Evaluation Framework will encompass the following four areas:

- Strategy
- Priorities
- Programs and Initiatives
- FHRI Fund program overall.

Objectives of the Evaluation Framework are to:

- set out a defined structure for the way evaluations are planned, conducted and implemented that is evidence-based, measurable and relevant
- use evaluation findings to inform decision-making and assess whether the FHRI Fund's allocations are appropriate, effective and efficient

- ensure a transparent and coordinated approach to evaluations
- outline the roles and responsibilities relating to evaluations
- support accountability, inform improvements and prioritise investments.

The following thematic areas have been identified, for which key metrics will be sought or developed for evaluation of the FHRI Fund:



Patient and community outcomes



Translation and implementation outcomes



Academic outcomes



Public health system benefits



Research and innovation workforce benefits



Commercial and financial benefits

Evaluation findings will be communicated in ways that are suitable for the intended audiences; for example, through the Advisory Council's annual report, evaluation reports, presentations and ongoing updates through the FHRI Fund website.

Strategic direction

Strategic direction

To transform research and innovation in WA and support the long-term development of the WA research and innovation ecosystem through the FHRI Fund, the Department of Health and the Advisory Council will implement this Strategy, and the Priorities and Programs and Initiatives that flow from it.

Vision

To be a global centre for research and innovation excellence, advancing the health and prosperity of the WA community.

Themes

The themes of the Strategy are based on extensive research, analysis of national and international best practice, alignment with key State and national reports and strategies, and significant stakeholder consultation (detailed in Appendix 1).

The inaugural Strategy does not seek to identify diseases, conditions, population groups or disciplines that should be Priorities. Instead this Strategy includes themes and objectives that are of relevance to increasing the capability and capacity of the WA health and medical research and innovation sector.

The four strategic themes are:

1. **People**
2. **Partners**
3. **Platforms**
4. **Policy**

Objectives have been identified within each theme that are of strategic significance to contemporary research and innovation in WA.

Objectives

To significantly boost the WA health and medical research and innovation ecosystem by investing in people, partnerships and platforms, and creating a supportive policy environment.

1. People

- A. Build capability through education and training that will enable WA researchers and innovators to perform at the highest level, and that will involve consumers and the community.
- B. Provide opportunities for researchers and innovators to build long, productive and diverse careers in WA.
- C. Support and empower outstanding and emerging researchers and innovators to achieve sustained excellence and to drive the research and innovation agenda in WA.
- D. Enable pathways for exchange of ideas, resources and knowledge among health, academic, community, commercial and public sectors to identify new research and innovation initiatives and contribute to evidence-based health care and disease prevention.

2. Partners

- A. Advance a culture of collaboration to enable multidisciplinary and cross-sectoral research and innovation partnerships.
- B. Work with partners to secure new funding for research and innovation in WA.
- C. Build the confidence, experience and skills of consumers in regard to research and innovation and ensure they are true partners.
- D. Enable researchers and innovators to form partnerships that will increase translation and implementation.

3. Platforms

- A. Build capacity in data analytics and big data and develop systems and processes that enable data accessibility and best practice in using such data for innovation and research purposes.
- B. Enhance data linkage services within the State.
- C. Expand the health and medical innovation ecosystem.
- D. Support new or existing infrastructure to elevate WA as an international leader in a research or innovation field.

4. Policy

- A. Streamline governance and ethical review and reporting.
- B. Elevate research and innovation in the public health system.
- C. Support the growth of local research and innovation capacity.

Strategic themes



Theme 1 – People

Researchers, innovators, consumers, community members, investors, students, clinicians, technicians and support staff, among many others, are all valuable contributors to a vibrant health and medical research and innovation environment.

People – Objective A

Build capability through education and training that will enable WA researchers and innovators to perform at the highest level, and that will involve consumers and the community.

High-value, relevant education and training will help researchers, innovators, consumers and the community to be productive partners in health and medical research and innovation endeavours in WA.

Moreover, providing an environment in which researchers and innovators feel supported to acquire new proficiencies will assist in retaining our best and brightest minds and make WA a more attractive destination for researchers and innovators from other Australian jurisdictions and abroad. For example, commercialisation and entrepreneurship training for researchers and innovators will facilitate the diversification of the workforce, and public engagement and communication skills will ensure that the value of research and innovation is effectively presented to the community and decision-makers.

For all researchers and innovators, especially when involving Aboriginal people directly, their data or their biological samples, Aboriginal cultural awareness training will be essential.

In the digital arena, certain skills and professional qualifications are necessary to prepare the State for future opportunities. These include expertise in data analytics, software development and programming, information technology, artificial intelligence and machine learning.

It is also important to provide postgraduate research and training opportunities in all clinical disciplines, supported by funding, mentoring, interaction with academic researchers, clinical duty backfill and their departments. Training may include topics such as professional ethics and integrity, data management and analysis, research methodology, the community voice in research and the importance of reproducibility. These types of research and training opportunities also need to be available to researchers in regional areas to build local capability.

At its simplest, innovation is about identifying, creating and delivering a better way to do something. A concerted effort is required to make structured entrepreneurial and innovation training available.

People – Objective A:

Build capability through education and training that will enable WA researchers and innovators to perform at the highest level, and that will involve consumers and the community.

- Boost research and innovation skills and opportunities for the health and medical workforce.
- Support the development of consumer and community involvement in research and innovation.
- Promote uptake of education and training programs to ensure maximum benefit to the academic, health and community sectors.
- Enhance skills in innovation, commercialisation, data analytics, software programming, information technology, artificial intelligence and machine learning.



Case study

1 in 12 – Rare Diseases

Clinical Geneticist Gareth Baynam was awarded a Clinician Research Fellowship in 2013, which is a joint Department of Health and Raine Medical Research Foundation program. Cumulatively, rare diseases affect approximately 1.5 million Australians (including more than 400,000 children); that is, 1 in 12 individuals. Dr Baynam's work included developing a Rare and Undiagnosed Diseases Diagnostic Service that has trebled the rate of confirmed genetic diagnosis in clinical service. The service supports the health system to function efficiently and effectively by enabling an earlier diagnosis and reducing any further unnecessary testing. Importantly, establishing the cause of a rare condition or disease as early as possible helps individuals and families reduce the time and process involved in going through the medical system to find an answer and diagnosis. The Clinician Research Fellowship program encourages clinicians employed by the WA health system in all areas of health care to become more involved in health and medical research while maintaining a level of clinical/healthcare duties.





People – Objective B

Provide opportunities for researchers and innovators to build long, productive and diverse careers in WA.

Tertiary and vocational education pathways provide career opportunities for the next generation of researchers and innovators, including those with ambitions to work in the healthcare sector, in private industry, the non-government sector and the public service.

Additionally, incentivising WA researchers and innovators to hone their skills abroad will return a broader skill set to the State.

Buying back time to free people from their standard duties to undertake research, innovation and entrepreneurial activities is highly valued and often allows a clinical career to be established or continued. The Department of Health's Clinician Research Fellowships program, delivered in partnership with the Raine Medical Research Foundation, provides an example of how this can be achieved.

Providing stable funding for technical and support staff and making specialist expertise available in areas such as data analytics, software development and programming, artificial intelligence and machine learning will allow career diversification across the sector.

The Strategy therefore outlines clear directions for ways the FHRI Fund could support WA's current and future researchers and innovators.

People – Objective B:

Provide opportunities for researchers and innovators to build long, productive and diverse careers in WA.

- Provide research and innovation career opportunities for all interested health and medical professionals.
- Identify and support non-academic career pathways for highly skilled technicians and support staff.
- Increase pathways for researchers and innovators to forge careers in private industry, the non-government sector and the public service.
- Incentivise WA researchers and innovators to hone their skills in leading international institutions and bring these skills back to the State.



Case study

Skin health for kids and families

The Skin Health team at the Telethon Kids Institute, with funding from the Department of Health and in conjunction with the WA Country Health Service – Kimberley, conducts research with the goal of reducing the burden of skin infections in Aboriginal children to improve their overall health and prevent acute rheumatic fever (ARF). ARF is the body's immune system reacting to an untreated infection with bacteria that can cause some skin and throat infections. Nearly half of all children living in remote Aboriginal communities have a skin infection. Worldwide, skin infections affect more than 162 million children at any one time. Infections such as scabies and skin sores can cause stigma, sleeplessness, cross-infection with friends and family and may lead to further serious health outcomes, such as sepsis or kidney disease. The Skin Health team's goal of implementing skin health management best practice is demonstrated by the first National Healthy Skin Guideline it developed to help healthcare providers easily recognise, diagnose and treat skin infections using online resources such as photographs and learning tools. The multidisciplinary team's projects span a wide research portfolio from basic science to translational projects. The team works in partnership with local Aboriginal community organisations and individuals.





People – Objective C

Support and empower outstanding and emerging researchers and innovators to achieve sustained excellence and to drive the research and innovation agenda in WA.

Investing in the retention of high-achievers and attraction of similarly successful individuals from interstate and overseas are important for setting the State on the path of sustained excellence in research and innovation.

Also, action is required to help emerging WA researchers and innovators to become high-achievers in their own right. Providing emerging researchers and innovators with opportunities to take greater responsibility for their research endeavours will help them attain a level of success that is competitive nationally and internationally. To ensure that emerging researchers and innovators achieve success, they will require guidance and connection to a range of mentors.

The Strategy recognises that achieving these ambitions requires both funding and cultural change.

People – Objective C:

Support and empower outstanding and emerging researchers and innovators to achieve sustained excellence and to drive the research and innovation agenda in WA.

- Encourage emerging researchers and innovators to be coordinating principal investigators on funding applications.
- Develop and implement selection processes that ensure early- and mid-career researchers and innovators are competitive for funding.
- Identify policies that ensure early- and mid-career researchers have opportunities to drive the research and innovation agendas in WA.
- Support mentorship opportunities for WA health and medical researchers and innovators.
- Support the development of WA research and innovation leaders.
- Target high-performing researchers and innovators in WA and abroad to boost long-term capacity in strategically important areas.



People – Objective D

Enable pathways for exchange of ideas, resources and knowledge among health, academic, community, commercial and public sectors to identify new research and innovation initiatives and contribute to evidence-based health care and disease prevention.

The health and medical research and innovation ecosystem is complex, consisting of multiple agents, each with their own objectives.

Two distinct economies underpin the health and medical research and innovation ecosystem: the knowledge-based economy; and the translation or commercialisation economy². The knowledge-based economy is driven by research or intellectual capabilities, while the translation or commercialisation economy is driven by the user or payer.

There are significant multilateral interdependencies between these two economies that must be maintained for the wider health and medical research and innovation ecosystem to thrive.

Therefore, opportunities for exchange of ideas, resources and knowledge among different agents and/or sectors are crucial to effecting positive change to policy and practice. Exchange will be encouraged between hospitals (public and private), primary health care, medical technology and pharmaceutical companies, software developers, public service agencies and academic institutions, among others.

The exchange of ideas, resources and knowledge has the following benefits:

- Clearly defined research and innovation objectives, informed by input from key stakeholders.
- Acknowledgement of implementation challenges.
- Identification of new opportunities.
- Lasting, mutually beneficial relationships.

People – Objective D:

Enable pathways for exchange of ideas, resources and knowledge among health, academic, community, commercial and public sectors to identify new research and innovation initiatives and contribute to evidence-based health care and disease prevention.

- Identify systems or processes that facilitate exchange among sectors in a way that is sustainable in the long term.
- Identify opportunities to embed researchers, innovators, consumers and the community in policy, practice and industry environments and vice versa.



Theme 2 – Partners

Contemporary research and innovation are characterised by national and international interconnectedness and diverse, multidisciplinary teams. However, the obvious benefits of collaborating with partners are not always easy to achieve, as establishing and maintaining partnerships requires planning and ongoing effort.

This theme focuses on establishing a collaborative environment which encourages mutually beneficial partnerships, ensuring consumers and the community are true partners, and benefits flow into practice.

Partners – Objective A

Advance a culture of collaboration to enable multidisciplinary and cross-sectoral research and innovation partnerships.

A lack of opportunities and defined pathways, and the absence of a successful collaborative culture have been identified as barriers to establishing relationships with consumer and community groups, private and commercial entities and WA Health Service Providers (HSPs). Partnerships that include a consumer and community voice and span industries and disciplines are important to provide diverse perspectives, identify new opportunities and ensure that benefits are realised.

A service to coordinate research and innovation partnerships will provide clear pathways for engagement with new partners and signal the State's desire to facilitate productive partnerships. [The Cambridge Network](#) in the United Kingdom is one example of how we could bring people together to meet, share ideas and collaborate.

The Strategy acknowledges the important role that other organisations play in connecting partners within WA and with interstate parties and will work with these partners as opportunities arise. An important component of this work is to identify and address factors that may be inhibiting a culture of collaboration between and within partner organisations.

The FHRI Fund will support work with relevant partners to build existing, and establish new, partnerships that align with the vision and objectives of the Strategy.

Partners – Objective A:

Advance a culture of collaboration to enable multidisciplinary and cross-sectoral research and innovation partnerships.

- Support the establishment and maintenance of research and innovation partnerships.
- Work with key partners to coordinate partnerships in research and innovation through implementation of sustainable models.
- Advance a culture of collaboration between and within partner organisations.
- Explore national and international research and innovation partnerships.



Case study

Successful collaborative model for research translation

Autism Spectrum Disorder (ASD) is a lifelong developmental disorder affecting approximately one in 100 Australians. Until recently, interventions were not tailored for infants at increased risk for ASD less than 14 months of age. A highly successful collaboration between the Telethon Kids Institute and the State Government's WA Child and Adolescent Community Health's Child Development Service (CDS) developed a study that tested a parent-mediated therapy for infants at increased risk for autism or developmental delay, involving clinicians and researchers at two sites: one in Perth and one in Melbourne, for six months between 2018 and 2019. In the new parent-mediated intervention, therapists used video-feedback to help parents adapt to their infants' interactive styles. The program focuses on enriching social and communication exchanges between an infant and parents to promote social and communicative development. After six months of treatment, there was a significant improvement in language and communication abilities. The study has the very real potential of changing the clinical pathway for some early developmental disorders from 'wait and see' to 'identify and act'. The successful collaboration was created by introducing a management structure, early in the project, to apply the strengths of each organisation to address unmet needs. The important results from the project could not have come from each organisation working alone and led to a \$3.1 million grant from the National Health and Medical Research Council in August 2019 to extend this work.





Partners – Objective B

Work with partners to secure new funding for research and innovation in WA.

While the State Government's FHRI Fund commitment provides a major boost to research and innovation funding in WA, a key objective of the Strategy is to leverage additional funding through partnerships to address mutual, ambitious goals.

The FHRI Fund will seek to catalyse partnerships through targeted application of funding but will do so under terms that will leverage other funding. The Department of Health currently has several co-funding partnerships within research that outline this model; for example, the WA Child Research Fund, delivered in partnership with the Channel 7 Telethon Trust, and the Digital Health Cooperative Research Centre program.

In regards to partnering opportunities for innovators with investors or private entities, this may be stifled by the risk that investment in the partnership, in terms of time and funding, may not produce material benefits. This risk can be mitigated by third-party investment to 'de-risk' the partnership.

Through consultations conducted to inform the Strategy it was identified that there is a requirement for new seed funding to encourage co-investment. This funding would support early-stage innovations with commercial potential, helping them to progress to the point that they will be attractive to investors. It will ensure funding flows into the system providing the ideas/companies with investment at the right time to maximise the chance of success. The innovation seed fund will also stimulate the innovation ecosystem, in alignment with Platforms (Theme 3) Objective C.

Commercial benefits derived from the work supported by the FHRI Fund will flow to WA under carefully designed intellectual property (IP) policies. In parallel with activities to support IP and commercialisation in the public health system, the State will present a cohesive plan to maximise commercial benefits for inventors, investors and all Western Australians.

Partners – Objective B:

Work with partners to secure new funding for research and innovation in WA.

- Support researchers and innovators to find, apply for and ultimately secure external competitive funding through partnerships.
- Identify the most efficient risk mitigation strategies for investors in innovation and commercialisation opportunities while ensuring benefits flow to WA.
- Develop an innovation seed fund to support early stage ideas.
- Develop IP policies that are clear to all stakeholders and a plan to maximise commercial benefits for inventors, investors, and all Western Australians.
- Identify and implement co-funding arrangements to boost the FHRI Fund's impact.



Case study

An innovative approach to reducing the need for repeat cancer surgeries

OncoRes Medical (OncoRes) is a multidisciplinary, multi-institution, Perth-based medical device company founded in 2016 which comprises a team of biomedical engineers at The University of Western Australia and the Harry Perkins Institute of Medical Research, and breast cancer surgeons and pathologists from HSPs. The company's handheld imaging tool and console helps surgeons better identify cancerous breast tissue, reducing the need for follow-up surgery which occurs in 25 per cent of cases. Positive results from a newly completed study by the company showed an improved accuracy in detecting cancerous tissue across 70 patients. Currently, a pathologist examines the excised tissue after an operation and further surgery is deemed necessary if cancer cells are found in the margin surrounding the removed tissue. The imaging probe, however, will help breast cancer surgeons to better identify where the cancer stops and the healthy tissue begins, and enable the whole tumour to be removed the first time. The tool helps to improve a patient's physical and psychological impact, and that of their carers and families. It also has the potential to improve health system efficiencies and provide cost savings by reducing or preventing repeat surgeries. In June 2017, OncoRes attracted \$6 million from the Medical Research Commercialisation Fund, of which the State Government is a founding member. In October 2019, OncoRes won the 2019 AusBiotech Emerging Company of the Year award.





Partners – Objective C

Build the confidence, experience and skills of consumers in regard to research and innovation and ensure they are true partners.

The *Sustainable Health Review Final Report*³ emphasises the critical importance of patient-centred health care. This same ethos underlies the aims of the FHRI Fund and the objectives of this Strategy.

Having consumers and the community as a central focus ensures that the issues or opportunities driving research and innovation will be relevant and more likely to translate into tangible benefits.

Consumers will be embedded as partners in the operations of the FHRI Fund, the determination of Priorities, and the Programs and Initiatives the Fund supports, as well as FHRI Fund evaluations.

Integrating consumers and community members throughout the research and innovation process requires an environment in which they feel secure, respected, understood and where cultural and social diversity is valued. The knowledge, skills and networks of consumers and the community are critical to the success of the FHRI Fund. For example, it is expected that Aboriginal consumers directly engaged in the FHRI Fund's activities will play a cultural navigator role, assisting further and deeper engagement with Aboriginal people.

It is also incumbent on the FHRI Fund to help consumers and the community to develop relevant new knowledge and experience regarding health and medical research and innovation and health literacy more generally.

In this context, co-designing research and innovation activities – the 'gold standard' for meaningful, well-planned engagement with consumers and the community – will be embedded in the design of Programs and Initiatives.

Where appropriate, researchers and innovators will also be required to engage with representative groups, which can help to engage with local communities.

The FHRI Fund will support work with consumer and community groups to implement new ways to further engage consumers in research and innovation in WA.



Partners – Objective C:

Build the confidence, experience and skills of consumers in regard to research and innovation and ensure they are true partners.

- Encourage and support research partnerships that involve Aboriginal people and communities.
- Enhance health and medical research and innovation literacy, skills and experience of consumers and assist consumers to use their own unique knowledge to enhance research and innovation.
- Support consumer and community involvement in all aspects of research and innovation.
- Engage with consumers and the community to promote awareness about research and innovation and promote opportunities for consumers to partner with researchers and innovators.



Partners – Objective D

Enable researchers and innovators to form partnerships that will increase translation and implementation

The FHRI Fund will support partnerships to facilitate the translation and implementation of health and medical research and innovation evidence and ideas for the benefit of WA.

Providing support for translation helps to accelerate the best research and innovation ideas into new policy or practice, consequently improving the health outcomes of our community and the effectiveness of our health system. The Department of Health's [Research Translation Projects program](#) provides an example of how to demonstrate improved cost effectiveness and/or efficiencies, with a focus on translation into policy and practice. This program also requires engagement with stakeholders such as policymakers and operational areas as well as a statement of the extent of the commitment by the research team and relevant stakeholders to implement research findings into improved health policy and practice at the end of the project.

The main challenge with translation of research and innovation is the widespread uptake of new policies and practices. Uptake of policies and practices requires that these are wanted and needed by the people to whom they apply. In acknowledgement of the complex health issues that face Aboriginal people, a standing Expert Committee on Aboriginal Health will be established to inform activities of the FHRI Fund. This Expert Committee will be made up of Aboriginal consumers and community members, Aboriginal health professionals and policymakers and Aboriginal researchers and innovators.

Implementation science, which studies methods and strategies to promote the uptake of effective interventions into routine practice, will be an important tool for the implementation of this objective.

Partners – Objective D:

Enable researchers and innovators to form partnerships that will increase translation and implementation.

- Support translation of health and medical research and innovation.
- Engage with key stakeholders to increase the translation of research and innovation evidence and ideas into practice.
- Establish a standing Expert Committee on Aboriginal Health.
- Support implementation science.



Theme 3 – Platforms

This theme focuses on the critical infrastructure and platforms that have the potential to support WA in securing a greater share of national and international competitive funding and establish the State as a leader in key research and innovation areas.

Platforms – Objective A

Build capacity in data analytics and big data, and develop systems and processes that enable data accessibility and best practice in using such data for innovation and research purposes.

Research and innovation are essential to the successful integration of digital technology into healthcare delivery and, more broadly, into better health outcomes for consumers.

Data and digital expertise are significant factors in meeting the technological demands of an increasingly interconnected and complex health system, and delivering the care consumers and the community need, where and when they need it.

In this complex environment, evidence-based treatment and diagnostic decisions are crucial and depend on knowledge that results from analysis of high-quality, accessible data. Likewise, the knowledge derived from data about sub-groups, and indeed individuals, in the population can assist in the design of population-level interventions.

Access to high-quality data enables ineffective and harmful practices to be identified and eliminated, supporting the provision of high value health care and assisting in uncovering gaps and unmet needs. High-quality data are also critical to developing new disease prevention and health promotion initiatives.

To allow research and innovation to advance, the FHRI Fund will support work with partners to explore safe and secure access to health data.

Platforms – Objective A:

Build capacity in data analytics and big data, and develop systems and processes that enable data accessibility and best practice in using such data for innovation and research purposes.

- Coordinate capacity in data analytics and big data, to ensure equitable access and sustainability in the long term.
- Identify the most appropriate standards and models for data- and digital-based projects in WA and how existing WA innovation hubs can assist to design and implement these.
- Identify existing challenges for making health data more accessible and ways these can be overcome.



Case study

WA a destination of choice for clinical trials

Linear Clinical Research (Linear) was conceived in 2010 as a purpose built, state-of-the art clinical trials facility at the Queen Elizabeth II Medical Centre in Perth. Linear commenced as a collaborative venture between the Harry Perkins Institute of Medical Research (then named the WA Institute for Medical Research), the Department of Health and the former Department of Commerce (now the Department of Jobs, Tourism, Science and Innovation). The State Government funding contribution to establish Linear has enabled the facility to focus on its Phase I trials that test drugs on healthy volunteers for safety to support first-in-human through to Phase II clinical trials (testing of drugs on patients to assess efficacy and side effects). Linear has grown to 127 full-time equivalent staff in 2020. Since 2010 it has completed more than 170 studies in 19 therapeutic areas; has more than 100 sponsors from 15 countries; and has more than 20,000 clinical trial participants in its database.





Platforms – Objective B

Enhance data linkage services within the State.

Western Australia, through its data linkage system (Data Linkage, WA), has been a leader in using health data for research and innovation purposes.

Linkage of routinely collected data is a powerful tool to assist in making informed, evidence-based healthcare decisions. Enhancing WA's data linkage system will provide research and innovation opportunities that have the potential to improve the health of Western Australians.

Therefore, this theme considers further opportunities for boosting the potential of the data linkage system.

Such opportunities could include expansion of data repositories for commonly linked data and direct access to data in controlled environments (safe havens, or data labs).

Guidance has also been taken from the *Sustainable Health Review Final Report*³, which identifies the need to implement modern governance for more timely and comprehensive whole-of-government and research access to data linkage services for more effective research, service planning and investment to meet community needs.

Platforms – Objective B:

Enhance data linkage services within the State.

- Support the modernisation of the data linkage governance and infrastructure to ensure more timely access to data.
- Support establishment of a data lab solution to provide local and/or remote access to broadly linked data collections.



Case study

Precision health advances in WA

Through the vision of local researchers and the support of the State Government, WA is set to become a centre of excellence in precision health. Precision health is a rapidly evolving field that uses new and emerging technologies to enhance disease prevention and early detection, and improve patient outcomes through treatments tailored to patients' individual biological profiles, as well as their variable responses to the environment and lifestyle. WA's efforts in this area initiated the establishment of the Australian National Phenome Centre. Seed funding from the Department of Health and funding from a consortium of all five WA universities and five other partners led to the Centre being awarded \$2.2 million from the ARC Linkage, Infrastructure, Equipment and Facilities scheme. In June 2018, two Premier's Fellows were appointed to the Centre to undertake phenomics research and data analysis to improve health care. In February 2019, the Centre received \$10 million from the Australian Government's Medical Research Future Fund to further research in the detection, treatment and prevention of obesity, autism and type 2 diabetes among children and the Aboriginal population. The Minister for Health formed the Precision Health Council in April 2019 to guide and advise the State on precision health opportunities to advance health and social outcomes, and the economy in WA. Coordinated by Murdoch University and co-located with the Fiona Stanley Hospital, the Centre will help position WA as a leader in precision medicine.





Platforms – Objective C

Expand the health and medical innovation ecosystem.

The diverse nature and application of innovation means the approach to coordinating innovation needs to be flexible, dynamic and tailored to address challenges in WA. For example, there is an abundance of pilot projects in WA; however, it is challenging to progress an innovation beyond this point.

Consequently, coordinating innovation activities is essential to harness, connect and amplify the individual elements of the innovation environment in WA. In alignment with recommendation 28 of the *Sustainable Health Review Final Report*³, a WA health system central unit will be established to provide advice, and support all HSPs to inform, guide and accelerate clinicians through the regulatory challenges facing them in a streamlined and easy-to-navigate process.

Roles that a central unit may be responsible for include:

- Provide ongoing advice and mentoring for innovators at every stage of the innovation journey.
- Promote opportunities for establishing multidisciplinary teams.
- Establish a key source of knowledge, resources and tools, including best-practice models, to accelerate the design and creation of WA innovation standards, protocols and flexible end-to-end methodologies.
- Conduct project implementation reviews.
- Implement key performance indicators.
- Promote collaboration, engagement and communication among clinicians, investors and industry.

- Identify barriers along the innovation pipeline.
- Develop strategies to allow entrepreneurs to engage with the public health system.
- Facilitate sharing and connecting of innovative work across the health system.

The central unit will be designed in collaboration with existing and planned innovation hubs to ensure its functions are distinguished from, and synergistic with, other activities in WA.

Stimulation of the innovation ecosystem will also be driven by the establishment of an innovation seed fund (as detailed in Partners (Theme 2) Objective B).

The FHRI Fund will work with key partners to embed innovation into core business across the public health system.

Platforms – Objective C:

Expand the health and medical innovation ecosystem.

- Develop a WA health system central unit to provide advice and guidance, and connect innovation activities across the health system.
- Embed innovation as a core activity across the public health system.
- Identify the barriers to entry for innovative ideas and develop strategies to overcome them.



Platforms – Objective D

Support new or existing infrastructure to elevate WA as an international leader in a research or innovation field.

There is an inherent tension between staying at the forefront of technological development and maximising the value derived from each investment in infrastructure. Likewise, a tension exists between the establishment phase for new resources and the 'business as usual' phase that is expected to follow.

It is therefore a critical task to determine what the future infrastructure needs of the State may be so that resources can be allocated strategically between current, short-term and long-term initiatives. The Advisory Council will lead this task, undertaking horizon scanning activities to provide a pragmatic vision for the infrastructure needs of the State.

From a value perspective, enabling infrastructure needs to be heavily used, relevant to multiple user groups, and genuinely advance the State ahead of the competition. The high capital and operational costs of major research and innovation infrastructure means collaborative co-funding arrangements are essential and duplicating existing infrastructure must be avoided.

Enabling infrastructure programs under the FHRI Fund will be relevant to the Strategy, include co-funding from other partners, and be supported by multi-partner consortia.

Partnerships will be established to better coordinate bids for key infrastructure. Coordinating the use of infrastructure will also be addressed to ensure equitable access by all stakeholders.

The five categories of enabling infrastructure that will be considered for support by the FHRI Fund are shown in the adjacent table.

Enabling infrastructure	Actions
'omics' technologies	<ul style="list-style-type: none">Work with the Ministerial Council for Precision Health to determine how the FHRI Fund can advance precision health in WA.Explore co-funding opportunities for purchase of capital infrastructure and recruitment of expertise.
Clinical trials	<ul style="list-style-type: none">Identify and support clinical trial infrastructure that best meets current and future clinical trial needs in WA.
Longitudinal, cohort and population studies	<ul style="list-style-type: none">Assess the State's needs and competitive advantage in regard to such studies.Determine a competitive, transparent process for supporting the studies determined to be of most value to WA.
Indirect research costs	<ul style="list-style-type: none">Determine the magnitude and nature of the indirect costs incurred by WA researchers and innovators.Review current funding support available to WA researchers to meet these indirect costs and determine whether the support programs provided by the State Government are relevant, fair and contemporary.
Biobanking	<ul style="list-style-type: none">Determine a biobank model that meets WA research and innovation needs and that represents international best practice.Develop a business case for the most suitable model.



Platforms – Objective D:

Support new or existing infrastructure to elevate WA as an international leader in a research or innovation field.

- Conduct a horizon scan of future needs of the State within research and innovation.
- Develop and implement plans to advance enabling infrastructure in five key areas:
 - ‘omics’ technologies.
 - Clinical trials.
 - Longitudinal, cohort and population studies.
 - Indirect research costs.
 - Biobanking.



Theme 4 – Policy

The Strategy acknowledges that the Department of Health has responsibilities to support health and medical research, innovation and commercialisation, which are separate from, but synergistic with, the activities of the FHRI Fund.

Supportive policy, operational and legislative conditions are essential to maximise benefits derived from the FHRI Fund's activities. Therefore, in developing the Strategy for the FHRI Fund, consideration has been given to the Department of Health's responsibilities and those of relevant partners.

There are only inherent barriers and enablers to a productive health and medical research and innovation environment that cannot be addressed locally and in isolation. For example, some policies and legislation are under the remit of other government agencies.

A WA whole-of-government perspective is therefore required to bring meaningful and appropriate change to bear on such enablers and barriers. In forming such a perspective, consideration also needs to be given to consumer and community priorities.

Policy – Objective A

Streamline governance and ethical review and reporting.

Human Research Ethics Committees (HRECs) and Research Governance Offices (RGOs) are the gatekeepers for the responsible conduct of research involving humans. Therefore, it is essential that HRECs and RGOs are diligent and thorough but, equally, they should be enablers of high-quality research.

The Research Governance Service (RGS) Information Technology system centralises the submission, administration, tracking and reporting of research projects, including ethics and governance approvals for human research conducted in the WA public health system. Establishment of an electronic system like the RGS is a requirement for Western Australia to participate in the [National Mutual Acceptance scheme](#) for scientific and ethical review.

However, there are other challenges that need to be addressed to promote an efficient and responsive human research ethics and governance system. For example, consistency between HRECs could be improved, researchers' understanding of ethics and governance could be enhanced and ethical and governance reviews could be streamlined.

Policy – Objective A:

Streamline governance and ethical review and reporting.

- Ensure availability of adequate human research ethics education and training.
- Enable greater coordination of HRECs across WA.
- Facilitate the streamlining of ethical and governance reviews and reporting.
- Support the implementation of the National Clinical Trials Governance Framework.



Policy – Objective B

Elevate research and innovation in the public health system.

Harnessing the potential of WA's highly skilled and dedicated clinical workforce is critical to ensuring the State is a destination of choice for clinical trials and giving Western Australians access to state-of-the-art health care. Clinical trials provide health benefits directly to the trial participants⁴, generate the evidence required to make new treatments available, help to attract and retain the best clinicians, and contribute to the economy by encouraging industry investment.

An object of the *Health Services Act 2016* is to “promote effectiveness, efficiency and innovation in the provision of health services and teaching, training, research and other services within the available financial and other resources”. In addition, the Act states that the main function of HSPs is to provide “teaching, training and research that supports the provision of health services as agreed with the Department [Chief Executive Officer]”.

The *Health Services Act 2016* is operationalised through annual service agreements between the Department of Health and each HSP, through which block funding is provided under the category of “Teaching, training and research” (TTR). However, acceptable metrics have not been developed for the research component of the TTR activity category, preventing research from being incorporated into the national Activity Based Funding model.

Ultimately, every person who interacts with the WA public health system should have an opportunity to participate in some form of research or innovation. The Department of Health will work with HSPs and partners to embed and prioritise research and innovation across the entire public health system. The Department of Health will also work with HSPs to determine key performance indicators for research so that these can be included in service agreements between the Department of Health and each HSP.

Policy – Objective B:

Elevate research and innovation in the public health system.

- Encourage a research and innovation culture across the health system.
- Develop specific, measurable key performance indicators for research and innovation.
- Review how the research component of TTR is allocated and accounted for within HSPs.
- Examine best-practice models for facilitating research and innovation activities within clinicians' defined duties.
- Support establishment of defined pathways for assessing new research evidence and innovation opportunities and facilitating their translation into practice.



Policy – Objective C

Support the growth of local research and innovation capacity.

As needs and opportunities arise, the Department of Health will engage with a range of stakeholders to ensure any legislation and policy that enables or impedes research and innovation will be considered. For example, current work in this area includes amendments to the *Guardianship and Administration Act 1990*, advising on the new privacy and data-sharing legislation and modernising the WA health system IP policy.

The Department of Health will also work with other State Government agencies, such as the Department of Jobs, Tourism, Science and Innovation, to implement synergistic initiatives and ensure consistency of policy for research and innovation.

The *Sustainable Health Review Final Report*³ recommends the establishment of a WA health system central unit to provide advice and guidance on innovation such as IP, legal, marketing and protocols for commercialisation.

A WA health system central unit, as outlined in Platforms (Theme 3) Objective C, can encourage innovative behaviours and pursue strategies to recognise employees for their involvement in the development of IP. The unit would also engage with the Medical Research Commercialisation Fund (MRCF), of which the Department of Health is a Public Research Partner, in the identification of IP with commercial potential, analysing commercial and non-commercial aspects of this and, when appropriate, assisting the authors of the IP in preparing a funding submission to the MRCF.

Policy – Objective C:

Support the growth of local research and innovation capacity.

- Support the review and drafting of policy and legislation that impacts on research and innovation.
- Establish a WA health system central unit to support IP and commercialisation.

Appendices

Appendix 1 – Development of the Strategy

The Strategy is based on extensive research, analysis of national and international best practice, alignment with important reports and other strategies, and significant stakeholder consultation.

Sustainable Health Review

The Government of Western Australia released the [*Sustainable Health Review \(SHR\) Final Report to the Western Australian Government*](#) in April 2019 to guide the WA health system to deliver patient-orientated, innovative and sustainable health care into the future³.

The *SHR Final Report* identifies eight Enduring Strategies to progress the WA public health system's sustainability agenda and 30 recommendations for how the Enduring Strategies can be addressed. Of these, recommendations 28 (*Establish a system-wide network of innovation units in partnership with clinicians, consumers and a wide range of partners to quickly develop, test and spread initiatives delivering better patient care and value*) and 29 (*Ensure that future research activities and investments are linked to the priorities of the WA health system and are actively translated into practice*) have an explicit research and innovation focus. The Enduring Strategies are:

1. Commit and collaborate to address major public health issues.
2. Improve mental health outcomes.
3. Great beginnings and a dignified end of life.
4. Person-centred, equitable, seamless access.
5. Drive safety, quality and value through transparency, funding and planning.
6. Invest in digital health care and use data wisely.
7. Culture and workforce to support new models of care.
8. Innovate for sustainability.

Reviews and reports

Other reviews and reports that were considered in developing the Strategy include:

- [*Developing a Whole-of-Government Data Linkage Model: A review of Western Australia's data linkage capabilities*](#) (2016)⁵
- [*Medical Research Future Fund: Australian medical research and innovation strategy 2016-2021*](#)⁶
- [*2016 National Research Infrastructure Roadmap*](#)⁷
- [*Western Australian Innovation Strategy*](#) (2016)⁸
- *Service Priority Review – Final Report to the Western Australian Government* (2017)⁹
- research-related plans and strategies for WA public HSPs and functional units within the Department of Health.

Deputy Premier's Health and Medical Research Roundtable (December 2017)

The Deputy Premier hosted a roundtable with WA research stakeholders to frame the FHRI Fund's establishment; discuss WA's research environment; and explore the future plans for research in WA. Participants in the roundtable included representatives from consumer networks, the Department of Health, HSPs, the WA Health Translation Network, State Government, the university sector, research institutes and eminent researchers.

Review of research, innovation and commercialisation (2018)

The Department of Health commissioned a review of the research, innovation and commercialisation landscape in WA, Australia and internationally. More than 60 consultations contributed to this review, which identified four funding objectives and 11 funding principles with relevance to the FHRI Fund and, therefore, to the Strategy. This review also examined national and international best-practice examples of research and innovation funding governance structures, which are relevant to the establishment of the FHRI Fund.

Health and Medical Research and Innovation Forum and online consultations (2019)

Stakeholders for the Strategy are diverse, including but not limited to consumers, training organisations, philanthropists, private companies, investors, research institutions (universities and medical research institutes), HSPs, the State Government, Department of Health, other State Government agencies and national and international research and innovation funders.

In May and June 2019, the Department of Health consulted with stakeholders regarding the Strategy. These consultations consisted of a forum held on 13 May 2019, attended by approximately 150 delegates, and a parallel online consultation which received approximately 120 submissions. All consultations were framed against the *Health and Medical Research and Innovation Strategy Discussion Paper*.

Stakeholders were tasked with addressing 24 questions across five themes: Policy and Practice; Partners; People; Platforms; and Priorities. In total, more than 2,000 responses were received across these 24 questions. This Strategy has been informed by the responses to these questions.

Consultations that informed the Strategy also highlighted the vision and objectives developed by stakeholders for the FHRI Fund and their expectations regarding the Fund's governance.



Innovation in WA (2019)

Three projects were conducted in mid-2019 that focused on evaluating the innovation environment in WA and exploring options to advance this environment. These projects aimed to:

- scope frameworks for guiding early-stage commercial proof of concept/pre-seed commercialisation activities
- complete an environmental scan of innovation in the WA health and medical sector and develop a WA Health Industry Value Chain model
- conduct a maturity assessment against national and international health innovation criteria to identify strengths and opportunities for growth.

Targeted consultations

A pre-publication version of the Strategy was tested with key stakeholders including the Chief Executives of the Health Service Providers.

Appendix 2 – Summary of themes and objectives





Theme 2: Partners

A

Advance a culture of collaboration to enable multidisciplinary and cross-sectoral research and innovation partnerships

- Support the establishment and maintenance of research and innovation partnerships.
- Work with key partners to coordinate partnerships in research and innovation through implementation of sustainable models.
- Advance a culture of collaboration between and within partner organisations.
- Explore national and international research and innovation partnerships.

B

Work with partners to secure new funding for research and innovation in WA

- Support researchers and innovators to find, apply for and ultimately secure external competitive funding through partnerships.
- Identify the most efficient risk mitigation strategies for investors in innovation and commercialisation opportunities while ensuring benefits flow to WA.
- Develop an innovation seed fund to support early stage ideas.
- Develop IP policies that are clear to all stakeholders and seek to maximise commercial benefits for inventors, investors and all Western Australians.
- Identify and implement co-funding arrangements to boost the FHRI Fund's impact.

C

Build the confidence, experience and skills of consumers in regard to research and innovation and ensure they are true partners

- Encourage and support research partnerships that involve Aboriginal people and communities.
- Enhance health and medical research and innovation literacy, skills and experience of consumers and assist consumers to use their own unique knowledge to enhance research and innovation.
- Support consumer and community involvement in all aspects of research and innovation.
- Engage with consumers and the community to promote awareness about research and innovation and promote opportunities for consumers to partner with researchers and innovators.

D

Enable researchers and innovators to form partnerships that will increase translation and implementation

- Support translation of health and medical research and innovation.
- Engage with key stakeholders to increase the translation of research and innovation evidence and ideas into practice.
- Establish a standing Expert Committee on Aboriginal Health.
- Support implementation science.



Theme 3: Platforms

A

Build capacity in data analytics and big data and develop systems and processes that enable data accessibility and best practice in using such data for innovation and research purposes

- Coordinate capacity in data analytics and big data to ensure equitable access and sustainability in the long term.
- Identify the most appropriate standards and models for data- and digital-based projects in WA and how existing WA innovation hubs can assist to design and implement these.
- Identify existing challenges for making health data more accessible and ways these can be overcome.

B

Enhance data linkage services within the State

- Support the modernisation of the data linkage governance and infrastructure to ensure more timely access to data.
- Support establishment of a data lab solution to provide local and/or remote access to broadly linked data collections.

C

Expand the health and medical innovation ecosystem

- Develop a WA health system central unit to provide advice and guidance; and connect innovation activities across the health system.
- Embed innovation as a core activity across the public health system.
- Identify the barriers to entry for innovative ideas and develop strategies to reduce them.

D

Support new or existing infrastructure to elevate WA as an international leader in a research or innovation field

- Conduct a horizon scan of future needs of the State within research and innovation.
- Develop and implement plans to advance enabling infrastructure in five key areas:
 - 'omics' technologies.
 - Clinical trials.
 - Longitudinal, cohort and population studies.
 - Indirect research costs.
 - Biobanking.



Theme 4: Policy

A

Streamline governance and ethical review and reporting

- Ensure availability of adequate human research ethics education and training.
- Enable greater coordination of HRECs across WA.
- Facilitate the streamlining of ethical and governance reviews and reporting.
- Support the implementation of the National Clinical Trials Governance Framework.

B

Elevate research and innovation in the public health system

- Encourage a research and innovation culture across the health system.
- Develop specific, measurable key performance indicators for research and innovation.
- Review how the research component of TTR is allocated and accounted for within HSPs.
- Examine best-practice models for facilitating research and innovation activities within clinicians' defined duties.
- Support establishment of defined pathways for assessing new research evidence and innovation opportunities and facilitating their translation into practice.

C

Support the growth of local research and innovation capacity

- Support the review and drafting of policy and legislation that impacts on research and innovation.
- Establish a WA health system central unit to support IP and commercialisation.

Appendix 3 – Acknowledgements

The Department of Health wishes to acknowledge the contributions of the following stakeholders to the development of the *WA Future Health Research and Innovation Fund Strategy 2020–2022: Activating research and innovation*. In addition, the contributions of anonymous individuals who made submissions to the online consultation are also gratefully acknowledged.

Aboriginal Health Council of Western Australia

Accelerating Australia

Andy Lamb Co.

Atomic Sky

Austrade

Australasian College for Emergency Medicine

Australian Alzheimer's Research Foundation

Australian Department of Health (Office of Health and Medical Research)

Australian Health Promotion Association

Australian Medical Association (WA)

Australian National Phenome Centre

Brandon Capital

Breast Cancer Research WA

Busselton Population Medical Research Institute

Cancer Council WA

City of Perth

CSIRO, Health and Biosecurity

CSIRO ON Accelerate

Curve Tomorrow

Department of Health (WA)

- Aboriginal Health
- Chronic Disease Prevention
- Clinical Excellence Division
- Clinical Leadership and Reform Directorate
- Data Information Systems
- Epidemiology
- Health Networks Branch
- Office of the Chief Dental Officer
- Office of the Chief Health Professions Officer
- Office of the Chief Medical Officer
- Office of the Chief Nursing and Midwifery Officer
- Office of Population Health Genomics
- Research Development Unit
- WA Cancer Registry
- Women and Newborn Health Service

Department of Jobs, Tourism, Science and Innovation (WA)

- Chief Scientist of Western Australia
- Science and Innovation Division

Diabetes Research WA

Ear Science Institute Australia

Harry Perkins Institute of Medical Research

Health Consumers Council WA

Healthway

Hospitals and Health Services

- Armadale Health Service

- Child and Adolescent Health Service
- East Metropolitan Health Service
- Fiona Stanley Hospital
- King Edward Memorial Hospital
- North Metropolitan Health Service
- PathWest Laboratory Medicine
- Perth Children's Hospital
- Ramsay Health Care
- Royal Perth Hospital
- Sir Charles Gairdner Hospital (Centre for Nursing Research)
- South Metropolitan Health Service
- St John of God Health Care
- WA Country Health Service

Institute for Respiratory Health

Insurance Commission of Western Australia

Kimberley Aboriginal Health Alliance

Lotterywest

Medical Research Commercialisation Fund

Metabolomics Australia

Moira Clay Consulting

Office of the Deputy Premier; Minister for Health; Mental Health

ORIGINS Project

Orthocell

Pawsey Supercomputing Centre

Perth Angels

Perth Biodesign

Perth Blood Institute

Royal Perth Hospital Medical Research Foundation

Silver Chain Group

Spacecubed

Spinnaker Health Research Foundation

Telethon Kids Institute

The Raine Study

Universities

- Curtin University
- Edith Cowan University
- Murdoch University
- The University of Notre Dame Australia (including the Institute for Health Research)
- The University of Western Australia (including the Centre for Microscopy, Characterisation and Analysis; and Pathology and Laboratory Medicine)

WA Cardiovascular Research Alliance

WA Cyber Innovation Hub

WA Life Sciences Innovation Hub

WA Mental Health Commission

WA Primary Health Alliance

Watermark Intellectual Property

Western Australian Health Translation Network (WAHTN)

- Clinical Trials and Data Management Centre
- Consumer and Community Health Research Network
- Research Education and Training Program

Wise Realities

Wrays

Yuuwa Capital

Appendix 4 – List of abbreviations

ARC	Australian Research Council
CERI	Centre for Entrepreneurial Research and Innovation
FHRI Fund	Future Health Research and Innovation Fund
HRECs	Human Research Ethics Committees
HSPs	Health Service Providers
IP	Intellectual property
MRCF	Medical Research Commercialisation Fund
RGOs	Research Governance Offices
RGS	Research Governance Service
SHR	Sustainable Health Review
TTR	Teaching, training and research

Appendix 5 – Glossary of terms

Aboriginal

Within Western Australia, the term Aboriginal is used in preference to Aboriginal and Torres Strait Islander, in recognition that Aboriginal people are the original inhabitants of Western Australia. No disrespect is intended to our Torres Strait Islander colleagues and community.

Data linkage

Connects pieces of information that are thought to relate to the same person, family, place or event.

Digital

In the context of health, is the translation or interaction of health-specific data or information, often in complex health specific environments, used to improve decision-making and streamline clinical or administrative workflows.

Enabling infrastructure

Refers to the state-of-the-art equipment, resources, facilities and centres of excellence in a particular field that are required to undertake high-quality research and innovation activities.

Innovation

Inclusive of:¹⁰

- a. the application and commercialisation of the outputs of research for the purpose of improving the health and wellbeing of human beings
- b. the development and delivery of new or improved health policies, systems, and services and delivery methods that seek to improve people's health.

Intellectual property

A category of property which includes intangible creations of the human intellect, the rights to which may be protectable by law. As such it is an asset which can be generated, and needs to be appropriately managed to maximise economic and social benefits.

'Omics

The technologies that are used to analyse molecules that make up the cells of an organism. For example, proteomics refers to the analysis of proteins, while genomics refers to the analysis of genes.

Research

Inclusive of:¹¹

- a. research to understand human health, wellbeing and disease, and the biological, behavioural, social and environmental factors that contribute to these
- b. research to measure the magnitude and distribution of a health problem
- c. research to develop solutions, interventions, products and technologies that could contribute to improving human health and wellbeing
- d. research to understand how interventions, policies and programs aimed at improving human health and wellbeing can be most effectively delivered.

Translation

The process of moving knowledge into action through the exchange of information and evidence between knowledge producers and knowledge users.¹²

Appendix 6 – References

1. *Market-led Proposals Policy*, Department of the Premier and Cabinet, January 2020 (<https://www.wa.gov.au/organisation/departments/department-of-finance/market-led-proposals>).
2. Jackson, Deborah J, *What is an innovation ecosystem?*, National Science Foundation, Arlington, VA, p. 2 (https://erc-assoc.org/sites/default/files/topics/policy_studies/DJackson_Innovation%20Ecosystem_03-15-11.pdf).
3. Sustainable Health Review. 2019. *Sustainable Health Review: Final report to the Western Australian Government*. Department of Health, Western Australia (<https://www2.health.wa.gov.au/Improving-WA-Health/Sustainable-health-review/Final-report>).
4. Majumdar, S. R. et al 2008. *Better outcomes for patients treated at hospitals that participate in clinical trials*. Arch Intern Med. 168(6):657-662 (<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/414107>).
5. Data Linkage Expert Advisory Group. 2016. *A review of Western Australia's data linkage capabilities*. Commissioned by the WA Department of the Premier and Cabinet (<https://www.jtsi.wa.gov.au/what-we-do/science-and-innovation/chief-scientist-of-western-australia/data-linkage-review>).
6. Australian Government, Medical Research Future Fund. 2016. *Australian Medical Research and Innovation Strategy 2016–2021* (<https://www.health.gov.au/resources/publications/australian-medical-research-and-innovation-strategy-2016-2021>).
7. Australian Government. 2016. *2016 National Research Infrastructure Roadmap* (<https://www.education.gov.au/2016-national-research-infrastructure-roadmap>).
8. Government of Western Australia, Office of the Government Chief Information Officer. 2016. *Western Australian Innovation Strategy* ([https://www.parliament.wa.gov.au/publications/tabledpapers.nsf/displaypaper/3914841a31223b11af0b93b4482580650045371a/\\$file/4841.pdf](https://www.parliament.wa.gov.au/publications/tabledpapers.nsf/displaypaper/3914841a31223b11af0b93b4482580650045371a/$file/4841.pdf)).
9. Service Priority Review, 2017. *Working Together: One public sector delivering for WA. Final report to the Western Australian Government*. Department of the Premier and Cabinet, Western Australia.
10. Adapted from the definition used in the *Medical Research Future Fund Act 2015* (Cth) and from the World Health Organization Innovation Group definition (online; accessed 5/7/2019, <https://www.who.int/life-course/about/who-health-innovation-group/en/>).
11. Adapted from the definition of 'research for health' used in the World Health Organization Strategy on Research for Health, 2012.
12. Australian Government, Department of Health. 2018. *Research translation*. Accessed April 17, 2019. (<https://beta.health.gov.au/initiatives-and-programs/medical-research-future-fund/about-the-mrff/research-translation>).

I am a senior Noongar Aboriginal woman, and one of the Elder Co-Researchers on the Ngulluk Koolunga Ngulluk Koort (Our Children, Our Heart) Project. I walk in two worlds between research and urban traditional life, representing the voices of my community and striving to improve the health and wellbeing of our children and families.

Our people have held the knowledge of medicine and healing for tens of thousands of years. This traditional knowledge and culture needs to be acknowledged by modern Western medicine and research as we work together to improve health and wellbeing for all people within Western Australia.

We as Aboriginal people need to be included in this process, so these traditional beliefs and practices can be integrated into health policies and procedures. This will allow us to walk alongside each other as we determine our own health needs, wishes, and treatments.

Aunty Millie Penny

Elder Co-Researcher, Ngulluk Koolunga Ngulluk Koort (Our Children, Our Heart) Project

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