

Acknowledgement of Country

We proudly acknowledge Victoria's First Nations peoples and their ongoing strength in practising the world's oldest living culture. We acknowledge the Traditional Owners of the lands and waters on which we live and work and pay our respect to their Elders past, present and future.

We acknowledge Aboriginal and Torres Strait Islander Peoples' continuing ways of knowing, being and doing around health, wellbeing and healing and the valuable contribution this makes to the health and wellbeing of our community.

We are genuinely committed to advancing Aboriginal self-determination and supporting Aboriginal communities and Traditional Owners to realise self-determined health and economic development objectives.

We acknowledge the intersections of this strategy with the development of the Aboriginal led health and medical research accord which seeks to embed culturally safe practises in medical research.





FOREWORD

Minister for Innovation, Medical Research and the Digital Economy

Over the last couple of years, the pandemic taught us that everyone and everything is connected.

After all, it was the collective efforts of all Victorians that saved our state from the scale of the tragedy experienced in other parts of the world.

By committing to everything from physical distancing to vaccinations, we all helped save the lives of those we love and others we will never meet.

The point I'm making is that the forces shaping our world are complex, interrelated and constantly changing. And in some of our most challenging times, we looked to our medical researchers to give us hope and certainty.



In Victoria, we know that we have some of the world's best researchers, and clinicians whose work has led to significant breakthroughs for a range of diseases and health conditions.

But the full value of this research, is only ever made possible when we work closely with industry, researchers, clinicians and patients.

And that is why this document is so important.

The Health and Medical Research Strategy: 2022–2032 (the Strategy) is about a vision for the future. Building on our government's investment in medical research, it demonstrates our commitment to building an environment where our researchers have the tools they need to bring their discoveries to life — whether in the clinic, hospital or home.

In essence, the Strategy is all about ensuring we have the people, institutions and scientific innovations we need to secure the collective wellbeing of our community and economy for the opportunities that lie ahead.

I have enormous respect and admiration for the people who work in this sector and I have no doubt that over the next 10 years we will see some incredible discoveries happen right here in Victoria.

After all, you can't have a stronger and fairer economy without a healthy community.

Jaala Pulford MP

Minister for Innovation, Medical Research and the Digital Economy

BACKGROUND

To understand the potential of medical research you have to know its past

Prior to the Spanish flu pandemic, Australia generated little medical research and exported most of its best researchers to Europe and North America.

That changed after the Spanish flu.

After that pandemic, the Commonwealth began to take health and medical research seriously, establishing a federal Department of Health in 1921 and investigating the establishment of the National Health and Medical Research Council (NHMRC) in 1925.

Unfortunately, as memories of the pandemic faded and the Great Depression hit, it took until 1936 to establish the NHMRC. As a consequence, medical research remained chronically under-funded in Australia.

But Victoria had a head start.

Thanks to the pioneering philanthropy of Walter and Eliza Hall, Victoria opened Australia's oldest medical research institute in 1915 — before the Spanish flu hit

The Walter and Eliza Hall Institute became a launching pad for Australia's first generations of medical researchers.

Since then, Victoria has become a world-leader in medical research thanks to the leadership of medical scientists such as Sir Frank Macfarlane Burnet, Derek Denton and Sir Gustav Nossal and philanthropists such as Kenneth Myer, Sidney Baillieu Myer, Sir Ian Potter and Dame Elisabeth Murdoch.

At the start of the 2000s, the Victorian Government made investments into landmark infrastructure such as the Australian Synchrotron. And since 2014 the Victorian Government has invested \$1.3 billion in medical research and implemented Healthier lives, stronger economy: Victoria's Health and Medical Research Strategy 2016–2020. This strategy sought to position Victoria as a global leader in health and medical research, improve the health outcomes of Victorians and strengthen the State's economy.

VICTORIAN MEDICAL RESEARCH PIONEERS



1951

Dame Kate Isabel
Campbell's research
established that
excess therapeutic
oxygen could lead
to blindness among
premature babies.
Her work received
global recognition and
resulted in changes
to the treatment of
premature babies
world-wide.



1960

Sir Frank Macfarlane Burnet from the Walter and Eliza Hall Institute of Medical Research awarded the Nobel Prize in Physiology or Medicine for the discovery of acquired immunological tolerance.



1973

Professors Ruth Bishop, Geoffrey Davidson, Ian Holmes, and Brian Ruck from the Royal Children's Hospital discovered rotavirus (the major cause of death from acute diarrhoea in young children) leading to the development of rotavirus vaccines.



1973

Professors Alan
Trounson and Carl
Wood from Monash
University achieved
the world's first in
vitro fertilisation (IVF)
pregnancy. Five years
later, based on their
work, the world's first
IVF baby was born
in the UK.



1977

Professor Donald Metcalf and colleagues at the Walter and Eliza Hall Institute discovered colony stimulating factors (CSFs). CSFs have helped millions of cancer patients to survive the damage to bone marrow caused by chemotherapy.



1984

The cochlear implant, or bionic ear, invented by Laureate
Professor Graeme Clark AC at the University of Melbourne was approved by the US Food and Drug Administration for use in adults. More than 300,000 people worldwide with deafness or hearing impairment have since received cochlear implants.



1999

The influenza drug Relenza, designed by Professor Mark von Itzstein and his team at Monash University, became available in Australia. It is now available worldwide.

As a consequence, Victoria is well-placed to adapt to — and socially and economically benefit from — change.

While investment in the sector has set Victoria up for success, COVID-19 has led to a shift in national and global direction for the sector. One of the most important lessons of COVID-19 — as demonstrated by the difficulty to secure mRNA vaccines — is that Australia is over reliant on global supply chains.

Socially and economically, Australia must become more self-reliant in areas of national interest — including health.

For instance, the lockdowns in Sydney and Melbourne during 2021 had significant economic implications which were lengthened by Australia's slow vaccine rollout.

That is why the Victorian Government is investing \$50 million to accelerate mRNA manufacturing, research and development.

And that is why Victoria wants to — in the national interest — expand its medical research ability to not just find new solutions to public health problems but boost its capability to commercialise and industrialise those new solutions.

In addition to COVID-19, Australia also faces a number of wide-ranging demographic changes that will impact the demands on the sector in coming years — for example our aging population and the rise in innovative and cutting-edge technology. For instance, Victoria's population is estimated to reach 11.2 million by 2056 with 21 per cent of the population projected to be aged over 65 – and half of those older Victorians will be living with chronic diseases.

That's why Victoria must keep innovating to keep up with the health needs of its ageing and growing population — using new technologies and discoveries to identify new ways to improve the health of all Victorians.

Victoria is well-placed to adapt to — and socially and economically benefit from — change. Our historic investments to date have enabled us to attract significant Commonwealth research funding, nurture growing talent, and reward quality research. The Health and Medical Research Strategy: 2022–2032 will build on these gains, with an outlook that is grounded in the realities of COVID-19 and a shifting demographic landscape.

Case Study

Melbourne Genomics Health Alliance

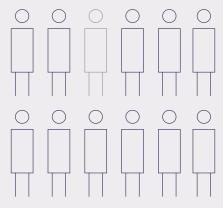
You wouldn't know it, but 1 in 12 Victorians has a rare disease, likely genetic in origin. Genomic sequencing analyses hundreds of genes at a time to diagnose these diseases and find treatments.

Brothers Clinton (16) and Daniel* (12) had been in and out of hospital all their lives, with debilitating bowel, respiratory and skin conditions. Genomic testing pinpointed the single genetic cause of their illness. Bone marrow transplants were then used to 'reboot' their immune systems, and the boys are now healthy teenagers.

Melbourne Genomics Health Alliance studies found that people who got a genomic test were eight times more likely to get a change in care. The Victorian Government's investment in genomics will ensure more precise care for all Victorians who need it.

1 in 12

Victorians



has a rare genetic disease

^{*}Names changed to protect identities.

EXECUTIVE SUMMARY

Vision, focus areas and implementation

VISION



The vision of the Strategy is that:

Victoria's thriving medical research community is solving global health challenges and advancing the Victorian economy.

Victoria's health and medical research sector is one of the State's most significant and productive industries.

Previous investment has generated around 28,000 employee years directly and 46,000 indirectly in related industries, including health services, universities, research institutes and

commercial entities for medical technologies and pharmaceuticals. In addition, every \$1 invested in the sector generates \$3.90 of activity in the economy.

The Health and Medical Research Strategy: 2022–2032 (the Strategy) is a 10-year plan to guide the next stage of the development of the sector — and help make Australia more self-reliant.





FOCUS

In the first half of the 20th century, Victoria's medical research sector became world-renowned thanks to a confluence of brilliant scientists and visionary philanthropists.

In the first half of the 21st century, Victoria's medical research sector needs to agglomerate — harnessing the brilliance of its people and institutions to find solutions to the world's most pressing health problems.

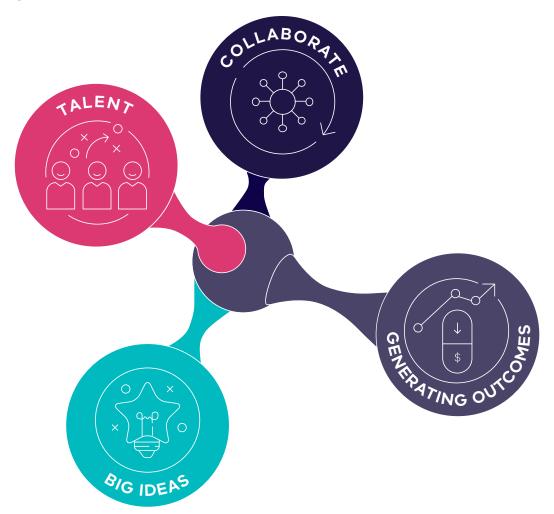
That is why the Strategy will be delivered through four focus areas:











IMPLEMENTATION

The Strategy will be implemented through more targeted action plans and strategies — enabling planning and investment to adapt to emerging priorities and opportunities over the next decade.

An outcomes framework will measure progress and inform future plans and actions to ensure the Strategy is delivering on its aims of solving health challenges and advancing the Victorian economy.





To attract and retain a highly skilled workforce, we need to foster sustainable career pathways and continuous development opportunities, across metropolitan and regional Victoria.

Additionally, we need to encourage and recognise innovative research, which addresses health challenges and delivers both health and economic benefits for Victoria.

Nurturing an inclusive and equitable workforce through increasing gender equality and cultural inclusion will encourage continued diverse insights and ideas and provide greater career opportunities for our talent.



Case Study

Premier's Awards for Health and Medical Research

Victoria has a proud history of producing world class health and medical researchers who have become leaders in their field through their ground-breaking discoveries. The Premier's Awards for Health and Medical Research recognise the contributions of these research leaders at a crucial point in their career.

The Awards' selection panel is chaired by trailblazing Victorian researcher and Gunditjmara woman Dr Misty Jenkins, recently inducted into the Victorian Government's honour roll for her advocacy in Aboriginal health, gender equity, and education. Dr Jenkins embodies how talented early-career health and medical researchers go on to build successful long-term research careers that benefit Victorians statewide.

Dr Jenkins is known for her world-leading cancer research and is currently a laboratory head at the Walter and Eliza Hall Institute, researching brain cancer and immunotherapy. Dr Jenkins was the first Indigenous Australian to attend the Universities of Oxford and Cambridge as a postdoctoral research fellow in her field.



PRIORITIES



Attract and prepare the next generation

Australia is well known for its global talent. Our highly-skilled professionals are drawn to our world-leading institutions, bringing skills and expertise from around the world that form the backbone of our medical research sector. However, global and national competition continues to increase, and we must maintain a future-focused workforce.

Victoria will continue to focus on identifying, training and retaining the next generation of medical researchers.

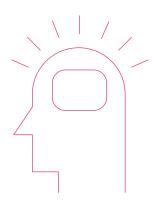




Build adaptive skills and retain talent

We know that it is the highly-skilled and talented people that make up our thriving medical research sector, and investment to support their development is paramount to remaining a leading destination for medical research.

Victoria will support opportunities for the medical research sector to develop workforce capabilities through professional development, leadership, teamwork, cross-disciplinary collaboration and access to translation-science skills across the workforce.





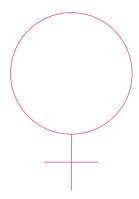
Champion gender equality

To attract and retain women in the workforce, we need to provide sustainable and flexible career pathways and continuous development opportunities, across metropolitan and regional Victoria. We will address the underrepresentation of women in late-stage career research positions by tackling structural issues.



Be culturally inclusive

To achieve the best outcomes for all Victorians it is vital that our medical research sector better reflects the cultural diversity of our community. We will address underrepresentation of Aboriginal and Torres Strait Islander peoples, and that of other cultural groups in the sector, by identifying and tackling structural barriers to participation. All research involving Aboriginal and Torres Strait Islander peoples should be driven by the principles of self-determination and cultural governance and conducted in a culturally safe manner.







To fully harness the potential of our talent, we are cultivating an environment that promotes collaboration across the health and medical research ecosystem and supports connectivity across disciplines at a national and global level.

Through the sharing of talent, data, equipment and technologies, we will achieve greater innovation breakthroughs for our health systems.

The stronger the collaboration between research organisations, heath services, consumers and industry the faster the pace, scale and impact of innovations that advance improvements in community health and patient care.

Case Study

Australian Institute of Infectious Disease

The Victorian Government is investing up to \$400 million to create the largest centre of infectious disease expertise in the Southern Hemisphere.

The AIID will be located in the biomedical precinct — bringing together the University of Melbourne, Burnet Institute, Doherty Institute, Walter and Eliza Hall Institute the Murdoch Children's Research Institute and the Melbourne headquarters of CSL.



\$400 million

invested into the largest centre of infectious disease expertise in the Southern Hemisphere



PRIORITIES



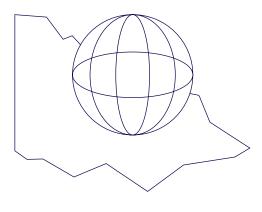
Strengthen cross-disciplinary connections and collaboration at a local and global level

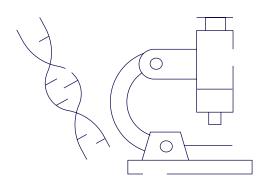
The greatest health challenges are solved when collaboration is thriving. We will drive collaborative models of research that create new opportunities for innovation, facilitate economies of scale through cost-sharing and deliver better economic and health outcomes sooner for Victorians.



Develop and leverage infrastructure and technologies

Leverage the talent and facilities of biomedical precincts and research centres to advance areas of translation such as population health, mental health, and social determinants of health. Building on the capability of our precincts and centres for excellence by strengthening the emphasis on cross-disciplinary collaboration will grow our national and global reputation and continue to attract research talent and new investment opportunities.







Streamline systems and data

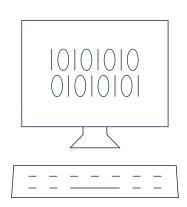
Improve research and clinical trial outcomes and efficiency by supporting streamlined, integrated, and safe data access to improve research and clinical trial outcomes and efficiency.

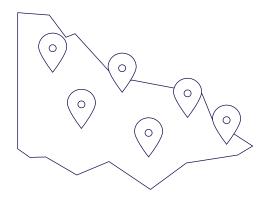
The translation of research into health care depends upon robust health systems. Within those systems, a strong clinical and research workforce is required, as are the systems and platforms that will best support streamlined and integrated access to data for research and clinical trials.



Engage with regional and rural Victoria

Rural and regional Victorians have an important role to play as collaborators in Victorian health and medical research. We will ensure this potential is met and leveraged to achieve more equitable medical research and improved health outcomes for all Victorians. We will use advances in digital technology to collaborate with regional and rural areas and increase direct access to medical research activity in regional areas.







Globally, Victoria already has a track record for ground-breaking medical research. Victoria is well-placed to build on its reputation for discovering, trialling and developing the solutions to the world's most pressing health problems.





Our medical research sector is making outstanding contributions to solving some of the most complex health issues facing our community.

As we look to the future, we need to continue developing the big ideas that will push the boundaries and address future health challenges. We will continue to position Victoria at the forefront of this ground breaking medical research to improve global health outcomes and grow our economy.

Case Study

mRNA Victoria

The Victorian Government is investing \$50 million to capitalise on Victoria's comparative advantages in research, manufacturing and enabling technology to build a globally recognised RNA research and manufacturing ecosystem in Victoria. A thriving RNA ecosystem will equip Victoria and Australia with next generation research and vaccine support for ongoing COVID-19 protection, future pandemics, and research capabilities for new drug and medical breakthroughs.

Living Evidence

Five of our high-burden disease groups are the focus of the Australian Living Evidence Consortium's Phase Two program of Living Guidelines.

Living Evidence is an Australian-led health innovation that enables continuous evidence surveillance and near real-time updating of evidence-based clinical practice guidelines — *Living Guidelines*. This model, which began in Victoria, is now being taken up around the world.

The Living Guidelines for Phase Two will focus on stroke, kidney disease, heart disease, diabetes, and musculoskeletal conditions such as arthritis.

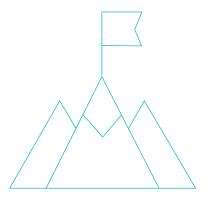


PRIORITIES



Identify critical challenges

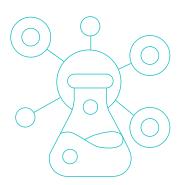
We will encourage big ideas and invest to solve some of the most critical health challenges facing our society. Our focus will be on identifying big ideas that solve global needs as well as those that support state and national interests. We will not only consider ideas based on our existing strength but also the potential for future impact — both on health and economic outcomes — and align investment in our capabilities accordingly.





Promote research opportunities and facilitate partnerships

Big ideas flourish when interdisciplinary and collaborative approaches can be used to take them from idea to reality. We will facilitate national and global partnerships that create opportunities for medical researchers to be part of impactful research that delivers health and economic outcomes for Victoria. We also know that truly collaborative partnerships cannot thrive without the right supporting environment. We will create the right enabling conditions such as regulatory environments and digital infrastructure to encourage and facilitate partnerships that promote new and innovative research opportunities.





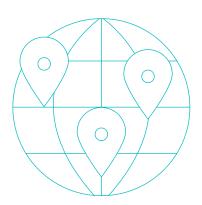
Be globally competitive

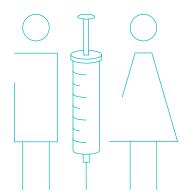
To remain globally competitive, Victoria needs to be recognised as a leading destination for the delivery of research outcomes, including commercially sponsored clinical trials. We will continue to build our research capabilities and invest in the key enablers that make Victoria globally competitive — a skilled workforce, quality infrastructure, a diverse population for patient recruitment and a favourable regulatory system supported by the Victorian Clinical Trials Framework.



Deliver benefits of clinical trials to all Victorians

Not only do we want to invest in big ideas, but we also want to ensure those ideas can deliver rapid benefit to communities, and at scale. We will continue to build Victoria's competitiveness in the global clinical trials market by keeping pace with international trends and attracting investment for future trials. Increasing the number and size of clinical trials and medical research projects conducted here in Victoria means greater access to life-improving treatments, and more jobs and economic growth across our State.







However, for this research to accelerate industry growth, create more high-value jobs, and improve health and mental health outcomes in our community, we need to bridge the gap between discovery, translation and commercialisation.

Encouraging entrepreneurship and innovation in medical research and attracting industry investment through partnerships will lead to greater public health and economic outcomes. We are cementing Victoria as a globally competitive destination for investment, talent and industry connections, now and for the future.

Case Study

GenV

The Victorian Government is investing \$30 million to develop Generation Victoria (GenV) — the largest childhood research project ever developed in Australia. GenV will enable equitable, evidence-based interventions and changes in Victoria's health, welfare, education and services — improving the lives and maximising the potential of Victoria's children.



\$30 million

invested into the largest childhood research project ever developed in Australia



PRIORITIES



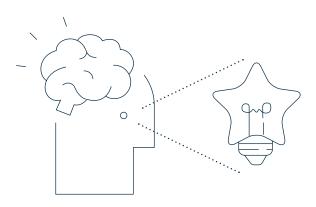
Encourage entrepreneurship and innovation

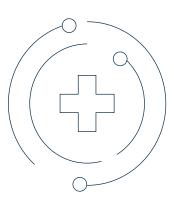
The benefits of health innovations can be better realised in an environment where innovation is fostered and partnerships between researchers and industry are developed. The encouragement of global linkages across the research pipeline can attract greater investment into the commercialisation pipeline. Whilst the generation of big ideas is key to a thriving sector, it is equally important that we maximise the social and economic benefits of new research successes by commercialising more medical research outcomes. We will build on local capital and connect Victoria's skilled medical research workforce with industry partners to create more high-value jobs and develop new industries through a thriving ecosystem.



Support the translation of research into improved health outcomes

Investing in medical research leads to a healthier and more productive population in Victoria, and better outcomes for patients. We want to deliver equitable and sustainable health outcomes that improve lives, build the economy and contribute to health system equity, performance and sustainability. At the heart of this is accelerating the translation of research into outcomes by creating more opportunities here in Victoria. We will also drive the translation of medical research by facilitating partnerships between researchers, government and industry with a focus on the end-user, including improving access and application of new treatments and interventions in health settings. The Breakthrough Victoria Fund represents an opportunity for the sector to further the translation of research into commercial outcomes.

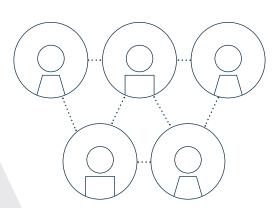






Mobilise the community

Consumers in the community are important stakeholders and end users of medical research. We believe it is paramount that the public is encouraged to play a more active role in the design of medical research, as well as the application of its findings. Community involvement is known to increase public confidence in research and build a greater sense of accountability, transparency and understanding in the sector. The sector also benefits from improved quality of research through the introduction of fresh, independent perspectives and ensuring research is meeting the needs of the end users it is intending to serve.



Case Study

Orygen Youth Mental Health

The Orygen redevelopment in Parkville is the home for the globally recognised National Centre of Excellence in Youth Mental Health alongside specialist mental health service provider Orygen Youth Health.

Alongside clinical services, Orygen is a centre of research for health professionals in search of better treatment options for young people living with mental illness, and a training and education hub for workers in the mental health sector.

Winning top honours for Best Mental Health Design at the European Healthcare Design Awards (2019), over 140 young people were involved in consultations for the redevelopment, including current and former clients as well as young people from the wider community. Up to 5,000 young people each year will benefit from the centre.



INTERSECTIONS

The Strategy will intersect with a range of other initiatives and responses over the next decade. Current intersections include:



Innovation Statement

vic.gov.gu/innovation-victorio



Breakthrough Victoria Fund

vic.gov.au/breakthrough-victoria-fund



International Investment Strategy

invest.vic.gov.au/how-we-can-help/aboutus/international-investment-strategy



Future Industries: Medical Technologies and Pharmaceuticals Sector Strategy

djpr.vic.gov.au/priority-industriessectors/medical-technologies-andpharmaceuticals



Melbourne Biomedical Precinct Strategic Plan

melbournebiomed.com/2018/04/30/melbourne-biomedical-precinct-strategic-plan/



Health 2040: Advancing health, access and care

health.vic.gov.au/about/publications/policiesandguidelines/Health-2040-advancing-health-access-and-care



Victorian public health and wellbeing plan 2019-2023

health.vic.gov.au/about/publications/ policiesandguidelines/victorian-publichealth-wellbeing-plan-2019-2023



Korin Korin Balit-Djak: Aboriginal health, wellbeing and safety strategic plan 2017-2027

health.vic.gov.au/about/health-strategies/aboriginal-health/korin-korin-balit-djak



Victorian cancer plan 2020-2024

health.vic.gov.au/about/health-strategies/cancer-care/victorian-cancer-plan



Heart health: Improved services and better outcomes for Victorians

health.vic.gov.au/about/publications/ policiesandquidelines/Heart-healthimproved-services-and-betteroutcomes-for-Victorians



Genetic and genomic healthcare for Victoria 2021

health.vic.gov.au/about/publications/ policiesandguidelines/genetic-genomichealthcare-victoria-2021



Victoria's digital health roadmap

health.vic.gov.au/hospitals-and-healthservices/quality-safety-service/digital-



Animal Welfare Action Plan

agriculture.vic.gov.au/livestock-andanimals/animal-welfare-victoria/animalwelfare/animal-welfare-action-plan



Advancing Victoria's Manufacturing. A Blueprint for the Future

djpr.vic.gov.au/about-us/overview/ strategies-and-initiatives/advancing-



Globally Connected: Victoria's Trade Statement

global.vic.gov.au/__data/assets/ pdf_file/0012/130314/Trade-Victoria-Statement-2017.pdf



Healthy kids, healthy futures

health.vic.gov.au/health-strategies/ healthy-kids-healthy-futures

FURTHER INFORMATION

For further information on this *Health and* Medical Research Strategy: 2022-2032 contact:

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Authorised and published by the Victorian Government.

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May 2022

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