



## Life Saving and Job Creating Medical Research – COVID-19 pandemic response

The Australian Government is investing \$2.3 billion for COVID-19 vaccine doses and research to ensure early access to safe and effective vaccines and to fast-track the development of treatments and vaccines for Australians and the global community.

The Government has made finding an effective vaccine and treatments for COVID-19 the highest priority through Australia's COVID-19 Vaccine and Treatment Strategy. This includes supporting the development and production of a tested and proven vaccine and ensuring we have enough vaccine for every Australian.

The Government is investing \$1.9 billion in COVID-19 supply and production of vaccine doses, including:

- \$1.7 billion to secure early access to COVID-19 vaccine doses, for the Oxford Vaccine (33.8 million doses) and the University of Queensland Vaccine (51 million doses) where these are proven to be safe and effective, including a production agreement with Seqirus to support the on-shore manufacture of the Oxford Vaccine.
- \$123.2 million initial investment to access vaccine doses through the self-financing component of the Gavi COVAX Facility (up to 25.5 million doses).
- \$24.7 million to purchase and store 100 million needles, syringes and associated sharps disposal containers.

In addition:

- \$362 million, including \$95.2 million from the Medical Research Future Fund for diagnostics, vaccine development, antiviral development, clinical trials, digital health research infrastructure and research into the human immune response to COVID-19 infection.
- \$80 million to secure COVID-19 vaccines for developing countries through the Advance Market Commitment component of Gavi COVAX Facility.

Funding is enabling Australian researchers to drive innovation and contribute to global efforts to find treatments for COVID-19. Research efforts will develop preventative and diagnostic tools to help protect Australians.

The three priority streams of activity include:

1. Vaccine development – there are critical steps in developing vaccines including safety and efficacy trials in humans. This funding will support each step, including the development of an alternative vaccine candidate.
2. Anti-viral development – finding and repurposing anti-viral treatments for COVID-19 is critical in managing the response to the outbreak. This funding will provide for up to 10 COVID-19 anti-viral candidates to be tested. The most promising candidates will then be moved into the next stage and be accelerated to clinical practice.
3. Respiratory medicine research – supporting research to characterise the disease, develop diagnostic tools, inform public health advice and provide guidance on personal protective measures.

### **Why is this important?**

The COVID-19 pandemic is the greatest health challenge the world has faced in living memory.

A vaccine is the greatest hope we have of returning our lives and our country to normal. In the meantime, new diagnostic tools will better support early identification of the virus, while proven treatments will reduce the effect of COVID-19 on individuals.

This funding supports Australian Government investment, through the Medical Research Future Fund, to find a vaccine and treatments for COVID-19, and better prepare for future pandemics.

As a responsible global citizen, we have also committed to supporting every country to have access to a vaccine.

These measures are informed by, and support, the Government's Coronavirus National Health Plan, to ensure Australians have the support they need throughout this pandemic and that we remain prepared across the country.

### **Who will benefit?**

Every Australian, particularly those at higher risk of developing serious disease if they contract COVID-19.

### **How much will this cost?**

This will cost \$2.3 billion from 2019–20 to 2021–22.

**Table – Breakdown of \$95.2 million Medical Research Future Fund (MRFF) COVID-19 Research Response**

<b>Investments</b>	<b>Total (\$m)</b>
<i>Vaccine development - \$19 million</i>	
University of Queensland to further develop and accelerate their vaccine candidate into clinical trials	5
University of Melbourne to progress two vaccine candidates under development	3
University of Sydney to evaluate their vaccine candidate in early stage clinical trials	3
Further competitive grant opportunity closing on 11 November 2020. This grant opportunity allows Australian researchers to apply for up to \$3 million to support research on a COVID-19 vaccine	7.7
<i>Antivirals</i>	
Funding to nine research teams to support the development of promising antiviral therapies for COVID-19. The most successful of the projects will have an opportunity to seek additional funding of up to \$10 million to accelerate their therapy to clinical practice, including for human trials	7.3 (10)
University of Queensland for the ASCOT study assessing hydroxychloroquine and a combination HIV drug (lopinavir-ritonavir) as potential treatments for COVID-19	0.4
Walter and Eliza Hall project assessing the effectiveness of hydroxychloroquine for prevention of COVID-19 infection amongst health care workers (COVID-SHIELD trial)	3
Innovative project using stem cell-derived tissues to rapidly test drugs already approved for use in humans for activity against COVID-19. The project commenced in 2019-20 through The Peter Doherty Institute for Infection and Immunity and The Queensland Institute of Medical Research Berghofer. Other labs are expected to join the project in 2020–21	2
<i>Respiratory Medicine Research</i>	
Funding for seven clinical trials to support better treatment and management of COVID-19 patients with severe acute respiratory distress	6.8
<i>Diagnostics</i>	
Peter Doherty Institute for Immunity and Infection to increase Australia's ability to conduct widespread testing for the diagnosis and clearance of COVID-19	2.6
University of Sydney for a project using artificial intelligence to support frontline health workers using CT scans to quickly and more accurately diagnose the severity of coronavirus in patients who are having difficulty breathing	1

<i>Public Health</i>	
Development of 'living guidelines' on the clinical management of patients with suspected or confirmed COVID-19 infection across primary, acute and critical care settings	1.5
Competitive grant opportunity for rapid research to improve the national mental health system response to the impacts of the COVID-19 pandemic (under assessment)	3
<i>Cross-cutting</i>	
Competitive grant opportunity for clinical trials to investigate effective mechanisms for the prevention or treatment of COVID-19 or its symptoms (under assessment)	25
University of New South Wales for genomics research into the behaviour, spread and evolution of the SARS-CoV-2 virus.	3.3
Competitive grant opportunity for digital health research infrastructure to help health systems respond faster to high-need emerging challenges	4
Competitive grant opportunity for research into the human immune response to COVID-19 infection, particularly in at-risk people	2
Competitive grant opportunity for research to understand the community's information needs and behavioural drivers during outbreaks, and strategies to address these	0.6
Support from the MRFF's Biomedical Translation Bridge (BTB) program <sup>1</sup> for five COVID-19 research projects including: <ul style="list-style-type: none"> <li>• a new treatment for respiratory complications as a result of COVID-19 (Dimerix Bioscience Pty Ltd)</li> <li>• an intranasal spray, utilising an already-marketed, broad-spectrum antiviral dendrimer for COVID-19 (Starpharma Pty Ltd)</li> <li>• a rapid-response COVID-19 assay (SpeeDx Pty Ltd)</li> <li>• a novel ventilated hood for patient isolation to provide better patient respiratory treatment and protect hospital staff from COVID-19 (University of Melbourne)</li> <li>• an Australian COVID-19 vaccine, COVAX-19® (Vaxine Pty Ltd)</li> </ul>	4.1
<b>Total</b>	<b>95.2</b>

<sup>1</sup>The Biomedical Translation Bridge (BTB) Program is a four-year \$22.3 million Australian Government initiative operating in partnership with the not-for-profit organisation MTPConnect to help researchers transform their ideas into new products and treatments. The emphasis of the Program is on rapid translation to clinical practice.