



BRIEFING

COVID-19 Vaccine Strategy – Purchasing Strategy and funding envelope

Date:	10 July 2020	Priority:	High
Security classification:	In Confidence	Tracking number:	MBIE: 2021-0139

Action sought		
	Action sought	Deadline
Rt Hon Winston Peters Minister of Foreign Affairs	Note the contents of this report Agree to forward this briefing to the Minister of Finance and seek a meeting to discuss a funding envelope	17 July 2020
Hon Dr Megan Woods Minister of Research, Science and Innovation		
Hon Chris Hipkins Minister of Health		

Contact for telephone discussion (if required)			
Name	Position	Telephone	1st contact
Michael Contaldo	Principal Policy Advisor, MBIE	9(2)(a)	✓
Glenys Karran	Principal Adviser, MFAT	9(2)(a)	
Therese Egan	Principal Policy Analyst, Ministry of Health	9(2)(a)	

The following departments/agencies have been consulted
MFAT, Medsafe, PHARMAC, Treasury, MBIE, MoH

Minister's office to complete:

- | | |
|---|--|
| <input type="checkbox"/> Approved | <input type="checkbox"/> Declined |
| <input type="checkbox"/> Noted | <input type="checkbox"/> Needs change |
| <input type="checkbox"/> Seen | <input type="checkbox"/> Overtaken by Events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |

Comments

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Purpose

To provide advice on purchasing options to secure a vaccine against COVID-19, and to agree a funding envelope to support ongoing purchase discussions.

Recommended action

The Ministry of Business, Innovation and Employment, the Ministry of Foreign Affairs and Trade, and the Ministry of Health recommend that you:

Note that COVID-19 vaccination is currently viewed as a crucial platform to allow New Zealand to fully re-open its borders and to step down from Alert Level 1 to Alert Level 0 and thereby contribute to economic and social recovery, while keeping New Zealanders safe; and that the agreed vaccine strategy identifies the need to use purchasing tools to secure supply where possible.

Noted

Note that we will need to adopt a diversification strategy and pursue multiple pathways concurrently to increase our chances of securing safe and effective COVID-19 vaccines at the earliest possible time for New Zealand.

Noted

Note that the New Zealand government will need to enter into a range of advance purchase arrangements over the next 12 months, and that officials are developing a decision-making framework to guide investment decisions.

Noted

Note that historically only 15-20% of vaccines that enter human trials result in a successful vaccine, and there is therefore a risk that none of our advance purchase arrangements will necessarily deliver a safe and effective vaccine. However, officials judge it important to ensure we are engaged across a wide range of options to ensure we are best positioned to have early access to a safe and effective COVID-19 vaccine.

Noted

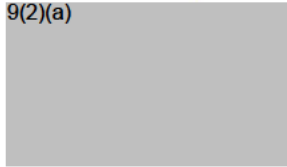
Agree that the progress report to Cabinet on 5 August should seek agreement to a funding envelope in the range of \$300 million to \$1.2 billion to enable officials to enter into advance purchase arrangements as appropriate at the multilateral, bloc, and single purchaser levels, and to support potential manufacture in New Zealand.

Agree / Disagree

Agree to forward this briefing to the Minister of Finance and seek a meeting to discuss the establishment and size of a potential funding envelope.

Agree / Disagree

9(2)(a)



Ben King
**Deputy Chief Executive,
Ministry of Foreign Affairs & Trade**

..... / /

Rt Hon Winston Peters
Minister of Foreign Affairs

..... / /

9(2)(a)



Maree Roberts
**Deputy Director General
Ministry of Health**

..... / /

Hon Chris Hipkins
Minister of Health

..... / /

9(2)(a)



Dr Peter Crabtree
**General Manager, Science,
Innovation, & International
Ministry of Business, Innovation &
Employment**

..... / /

Hon Dr Megan Woods
**Minister of Research, Science and
Innovation**

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Background

1. On 1 July officials provided you with an update on early progress in delivery of the Government's COVID-19 vaccine strategy [BR 3859 19-20]. The objective remains to secure supply of a safe and effective vaccine against COVID-19 which will allow New Zealand to fully re-open its borders and step down from Alert Level 1, thereby contributing to economic and social recovery while ensuring the health and safety of New Zealanders.
2. This briefing forms the basis for a report to Cabinet for its meeting on 22 July, and indicated that officials would return with options on co-investment and advance purchase arrangements as part of the plan to acquire safe and effective vaccines against COVID-19 for the Cabinet meeting on 5 August; and that this approach is likely to require significant financial commitment upfront, well in advance of any actual acquisition of a vaccine.
3. The New Zealand population remains almost totally susceptible to COVID-19 due to our successful elimination strategy. Maintaining this strategy relies on the maintenance of very tight border controls for the duration of the pandemic. Our current expectation is that quarantine-free travel is unlikely to extend beyond Australia and the Pacific, thus the costs of border controls will remain high. Unless the virus mutates to become less contagious or less virulent, the pandemic will only come to an end when effective vaccines are developed and deployed around the world.
4. Alert Level 1 restrictions are imposing significant costs on the New Zealand economy and disrupting trade, investment and social connections. Treasury estimates Alert Level 1 resulted in a 5-10% reduction in aggregate economic activity, relative to pre-COVID levels (equivalent to around \$1-2 billion per month). Should New Zealand be required to raise the alert level, the costs of the pandemic would be even higher – rising to 40% of GDP at Alert Level 4.
5. A widespread immunisation programme will be required to achieve sufficient levels of immunity within the population. Once achieved, we would be able to retire the COVID-19 alert level system, restoring New Zealand's connections with the rest of the world. Advanced economies around the world are taking action now to secure access to potential COVID-19 vaccines as they are developed, including through Advance Purchase Agreements (APAs). New Zealand should take a similar active approach and engage early rather than late, otherwise there is a risk we will not be able to address our immunisation needs.

The COVID-19 Vaccine Purchasing Strategy

Securing access to COVID-19 vaccines will require a novel purchasing approach investing in a diversified portfolio of vaccine programmes

6. As previously signalled, traditional vaccine procurement approaches are not suitable for securing a product that does not yet exist. There are more than 170 COVID-19 vaccine development programmes currently underway around the

world, but there is as yet no safe and effective vaccine available to purchase. Even when a successful vaccine is developed (provided it can be), then the global demand for doses of that vaccine will be fierce. There is no guarantee that New Zealand will be among the first to receive the doses we seek, especially if there is some prioritisation based on assessment of need, given our COVID-free status and good health care system. Taking early action now mitigates this risk to some extent.

7. This requires us to invest in a diversified portfolio of vaccine programmes by entering into purchasing arrangements in advance of the final development of any potential vaccine, and before we have certainty over its safety and effectiveness. We will have to make decisions early based on incomplete information, as are other countries. There is a real possibility that none of the supported candidates will be successful. However, the value of earlier access to a vaccine is enormous, in terms of lives protected and economic damage avoided. This makes the risk worth taking.
8. The purchasing strategy developed by the COVID-19 vaccine task force takes a diversified approach – recognising the need to invest upfront in a range of candidates, without knowing which will ultimately succeed. This is the price to pay for early immunisation. We will need to pursue multiple pathways to deploy this hedged approach - through multilateral initiatives, a “bloc” approach, or as a single purchaser.
9. The purchasing strategy developed by officials is underpinned by a number of guiding principles to support the decision-making process by:
 - securing access to COVID-19 vaccines that meet the immunity needs of New Zealand and the Pacific;
 - making investment and purchasing decisions that are science-led and evidence based, but that recognise uncertainties and the challenges of only partial data;
 - ensuring negotiations are conducted robustly to ensure purchase options on individual candidates have consistent terms to those offered to other advanced economies;
 - keeping multiple options in play – pursuing different pathways concurrently, investing in potential vaccine candidates being developed in a range of geographies, and across a suite of technology platforms;
 - taking a portfolio approach to manage risk in order to secure our wider objectives – being bold and pragmatic;
 - maintaining New Zealand’s international reputation by operating based on transparency and in support of a rules-based system; and
 - ensuring any vaccine meets New Zealand’s regulatory requirements for quality, safety and efficacy based on internationally agreed standards and guidelines, thereby ensuring local trust in the eventual immunisation programme.

10. We have made an investment to build the capability of a local manufacturer, BioCell, to make doses of a vaccine. However, we would not expect them to be able to produce any human vaccines until the second quarter of next year at the earliest, and this will be dependent on securing licensing and technology transfer rights to vaccine candidates that the facility is able to manufacture.¹ It is also worth noting that there may be challenges associated with acquiring inputs given global competition in vaccine production. We suggest officials do some work to determine whether we can mitigate against this, and return with further advice.
11. Purchasing from an overseas manufacturer is therefore likely to be the quickest and most likely route to securing a safe and effective vaccine for use in New Zealand – at least in the short term. This can be done in multiple ways: through a multilateral or global pooled facility, as part of a bloc of countries, or by establishing a relationship directly with a manufacturer. Global demand is likely to be such that supply will be provided over a period of months.

The COVAX pooled multilateral approach is a very cost-effective investment, but is expected to meet only 20% of our immunisation needs

12. Gavi (the Vaccine Alliance) has been active in the creation of the Global COVID-19 Vaccine Access Facility (COVAX Facility) as an initiative to accelerate access to vaccines by spreading risk across a number of potential vaccine makers. Its partnership with the Coalition for Epidemic Preparedness Innovations (CEPI) has helped secure engagement with 9-10 vaccine development programmes (several of which are at Phase II/III in clinical trial.) The COVAX Facility is open to any self-financing country. Participants would be expected to provide a financial contribution in advance, and to commit to buy vaccine doses once developed.
13. COVAX will require a critical mass of countries to commit. New Zealand has submitted an expression of interest into the Facility. We understand 22 countries (including Singapore, Australia, the UK, and South Korea) have also expressed an interest to date.
14. There is uncertainty about what the cost of participation might be, but Gavi has indicated that countries may need to pay \$70 per dose, which would amount to around \$70 million to secure New Zealand's one million doses (20% of our population). A 10% payment upfront (around \$7 million) would need to be made by 31 August - the remainder needing to be paid once a vaccine is developed. COVAX is at an early stage in working through the technical details, but we have been assured there will be better information available in coming weeks.
15. However, Gavi has indicated that participating countries would initially only be able to secure 20% of our total population need under the COVAX allocation formula. We would also likely not take delivery of all our doses at one time, but they would be distributed as they are produced. Our current understanding is that this could take 1-2 years. We are also unsure whether doses procured by us through a direct engagement with a pharmaceutical firm could abate or delay our COVAX allocation.

¹ BioCell intends to be able to produce vaccines across all technology platforms, except inactivated vaccines.

We need to explore other pathways quickly

16. ^{6(a)} [REDACTED]
17. A third pathway is to enter into direct discussions with vaccine developers. The US, the EU and the UK have already entered into APAs with AstraZeneca and Brazil has secured manufacturing licensing for their vaccine. PHARMAC has issued a request for information to firms to gather more detail about the vaccine plans of pharmaceutical companies with representation in New Zealand. The challenge here will be making New Zealand attractive enough in an environment where many large countries and the EU will be offering pharmaceutical companies money for early access. On the other hand, New Zealand's small size may enable us to be nimble and opportunistic.
18. Finally, we may be able to progress the option of New Zealand manufacture of a vaccine provided we can reach agreement on licensing rights. ⁹⁽²⁾⁽ⁱ⁾ [REDACTED]

All these pathways require financial commitment upfront

19. All of the proposed pathways require a financial commitment upfront, with no certainty any of them will lead to securing an effective vaccine. We continue to have to operate on the basis of imperfect information - leaning on advice from the Science and Technology Advisory Group and picking up intelligence from researchers, and other governments, about which vaccine candidates look most promising, and what the data tells us in terms of length of immunity and suitability for different groups across the wider community.
20. These difficult choices will continue for some time if initial research produces vaccines that are only partially effective or in limited supply. This could be the start of a long-term investment for New Zealand. ^{9(2)(g)(i)} [REDACTED]

We need a substantial funding envelope to secure arrangements under these pathways

21. We require agreement to a funding envelope over coming weeks that would allow officials to begin engaging in negotiations to support the proposed pathways (including COVAX and direct agreements with pharmaceutical companies), and to better ensure acquisition in a timely manner.
22. Subject to an assessment of further information from COVAX, the proposed approach is to invest in the COVAX Facility as a baseline for acquisition (20% of doses) and then explore APAs with a number of pharmaceutical firms either

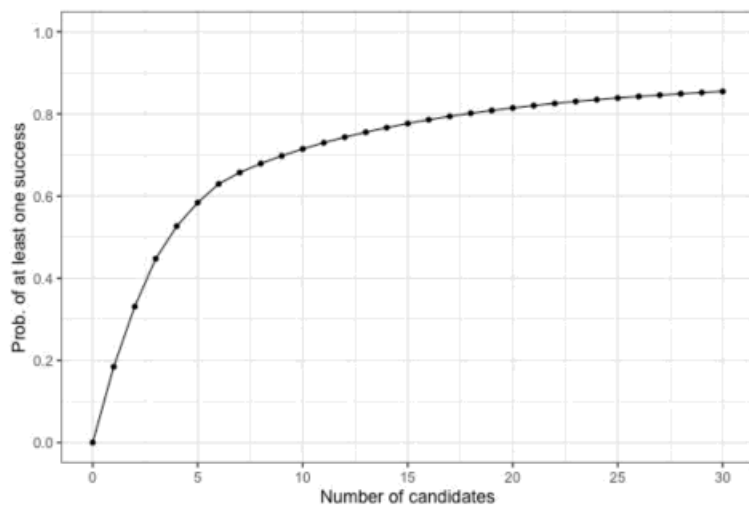
directly or as part of a bloc with the aim of securing the remaining 80%. COVAX will invest across at least 10 vaccine candidates. If it adheres to the current timetable, then we will need a formal Cabinet decision approving payment of a specified sum before the end of August. This is likely to be around \$7 million upfront to be paid by New Zealand, and up to \$70 million once doses of a vaccine are delivered (which could be as early as next year).

23. However, it is not guaranteed that COVAX will be able to provide the expected amount of doses. The COVAX Facility requires additional members to become viable and there is the separate risk that COVAX will fail to back a successful candidate. While we currently assess COVAX as the best avenue for New Zealand to access at least some quantities of a viable vaccine, relying on the doses promised by the Facility carries a degree of risk.
24. Therefore, outside of COVAX – either as part of a bloc/ blocs or directly through engagement with pharmaceutical firms - we recommend trying to reach agreement with at least 8 to 10 companies working on other vaccine candidates. This, along with COVAX, would expand New Zealand’s spread of around 20 vaccine candidates, with a stronger expectation that at least a small number of these would ultimately meet our needs. Our estimate is that investing in 20 candidates will give us an 80% likelihood of securing a safe and effective vaccine. This figure is based on the fact that only 1 in 6 vaccine candidates that enter human trials succeeds, and that production capacity for any one candidate will be severely constrained. This can be roughly modelled as follows:

Success Probabilities

Probability of at least one success as a function of number of candidates

Note: these calculations are based on expert-informed estimates of the probabilities of each platform and category, but are not customized to incorporate characteristics of individual candidates or the firms developing them.



25. To progress these conversations with pharmaceutical firms we expect we would need to commit to APAs based on 10% of the final cost (with the remainder upon delivery). Based on conversations with ^{9(2)(ba)(i)} a biotech company that has offered us a pre-order on its candidate, this suggests we would need up to ^{9(2)(ba)(i)} million per pre purchase agreement. However, we believe this is at the higher end of expectations, and it may be that we can reach agreements that offer more competitive pricing – especially if we manage to partner as part of a bloc which will strengthen our purchasing power.

26. A funding envelope in the range of \$300 million to \$1.2 billion would allow us to invest in at least 10 vaccine candidates, depending on the pre purchase price we manage to agree. Funding would be held in a tagged contingency and drawn down over several months as candidates emerge, subject to an assessment against a set framework. If one of the candidates continues to production then we would pay the remainder of the costs for that vaccine, but we would not expect that until next year at the earliest. The above range is still indicative and officials will continue to refine these over the coming weeks, ahead of any Cabinet paper.
27. It is critical to note, however, that in most cases we will be making an upfront purchase investment that is ultimately never used. Although it is a pragmatic approach to share some of the development risk with businesses, there is a risk of the perception that a particular firm gets a “windfall” from the New Zealand government, despite never providing us with a final product. We note that it is not uncommon for governments to invest in pharmaceutical products that do not ultimately end in a viable product. Like-minded countries are also taking this approach to manage the challenges of COVID-19. The EU vaccine strategy is based entirely on entering into APAs with vaccine producers.

PATHWAY	Cost of advance payment in 2020 (10% of final cost)²	Estimated contribution to doses
COVAX	\$7 million advance payment	This secures only 20% of NZ’s immunisation need, and would invest in around 10 vaccine candidates
Other (bloc or NZ direct with pharma firm)	\$300 million - \$1.2 billion (based on estimates of \$75 per final dose)	This helps to secure up to 80% immunisation need, and would look to invest in at least 10 additional vaccine candidates

A framework to guide purchasing discussions

28. Officials are developing a framework for entering into advance purchase arrangements, whether through the multilateral, bloc, single purchaser or domestic manufacturing pathways. The aim is to enter APAs with individual companies under the best possible conditions. These agreements will specify a number of details with respect to:
- expected payments (e.g. payment amounts, schedule and financial structure);
 - delivery details of the vaccine if and when successful (e.g. price per person vaccinated, quantity of vaccines and delivery timeline after approval);
 - compliance with New Zealand’s regulatory requirements; and

² Based on indications of NZ\$70 per dose

- any other relevant conditions (e.g. production capacity in New Zealand, possible availability of production facilities for the manufacturing of other vaccines or medicines in case of failure, or liability arrangements).

29. Criteria to decide investment in pathways and specific advance purchase arrangements will include:

- Balanced portfolio including coverage of different technology platforms, geographies and stages of development;
- Assessed likelihood of a candidate's success, based on the scientific approach and the technology used (the Scientific and Technical Advisory Group (STAG) will provide expert input);
- Speed of delivery at scale (includes assessment of production requirements and constraints);
- Cost, including conditions of payments;
- Liability coverage required; and
- Global solidarity.

Factoring in additional likely costs

30. ^{6(a)}

All Pacific Island countries except for Palau, Nauru and the Realm (Tokelau, Cook Islands and Niue) will have their participation in COVAX covered by ODA-contributions to Gavi's Advanced Market Commitment (AMC). New Zealand intends to target our recently announced contribution of \$7 million of ODA to Gavi towards the AMC ^{6(a)}

31. We also need to allocate some of the funding envelope to supporting the preparation of roll-out (storage and distribution) once we get a vaccine so that there are no avoidable delays later on.

32. As well as achieving vaccine supplies into New Zealand, infrastructure and logistics (to support cold chain storage, tracking, distribution, uptake, use and surveillance of vaccine) require investment to prepare in advance. Work on systems, facilities and capability will be required to support different immunisation programme types (size, priorities, degree of targeting), and the preparation will cover a range of contingencies. This work is starting now and funds will be needed in 2020 to prepare for supply chain, facilities (eg mobile refrigeration), vaccine delivery management (including correct delivery of two doses), workforce, adverse event surveillance and immunisation outcome tracking. Up to \$70 million could be required to be committed during the remainder of 2020. This would be a mix of departmental and non-departmental expenditure.

33. We will return with advice on costs for the eventual immunisation programme at a later date. While work is still ongoing, it is possible that these costs will be in a similar range to the cost of purchasing a vaccine.

Options for funding

34. We do not consider doing nothing to be a viable option. Other countries are already entering into APAs with pharmaceutical companies, and we will quickly fall to the bottom of the queue if we do not pursue our own arrangements. Even if we receive 20% coverage from a successful COVAX Facility, this will not be sufficient to immunise our most vulnerable. We estimate that approximately 34% (1.7 million) of our population would be particularly vulnerable to COVID-19, and even otherwise healthy persons have reported lingering effects months after recovering from the infection. Consequently, failure to secure early access to a vaccine will either require New Zealand's borders to be shut for a substantial period, or for a managed reopening; the latter of which will almost certainly result in additional deaths from COVID-19.

35. Therefore, there are three broad options in terms of the funding envelope to immunise 80% of the New Zealand population – anticipating that most candidates are likely to require two doses per person:

- \$300 million – **low** probability of securing a vaccine (akin to minimal insurance cover): eg 5 APAs based on \$75 a dose (2 doses needed) for 4 million people, or fewer APAs if dosage cost is higher
- \$780 million – **medium** probability of securing a vaccine (akin to basic insurance cover): eg 13 APAs based on \$75 a dose (2 doses needed) for 4 million people
- \$1.2 billion – **high** probability of securing a vaccine (akin to more general insurance cover): eg 20 APAs based on \$75 a dose (2 doses needed) for 4 million people or 5 APAs at \$300 per dose

36. In addition a small amount of the funding envelope will probably be required to cover costs related to preparation of roll-out (para 32 above), and to support some pre-purchase decisions to scale-up our domestic manufacture capabilities.

Next steps

37. We recommend that COVID-19 Vaccine Ministers submit a paper to Cabinet for the Social Wellbeing Committee on 5 August to agree this approach and the size of the funding envelope. This will build on the Cabinet report prepared for its meeting on 22 July.

38. Officials will work on a mechanism that allows New Zealand to enter into purchase arrangements if this is required during the election period.

Recommendations

Officials from the Ministry of Business, Innovation and Employment, the Ministry of Foreign Affairs and Trade, and the Ministry of Health recommend that Ministers:

Note that COVID-19 vaccination is currently viewed as a crucial platform to allow New Zealand to fully re-open its borders and to step down from Alert Level 1 to Alert Level 0 and thereby contribute to economic and social recovery, while keeping New Zealanders safe; and that the agreed vaccine strategy identifies the need to use purchasing tools to secure supply where possible.

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Agree / Disagree

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