GROUP OF EIGHT AUSTRALIA

COVID-19

Roadmap to Recovery

A Report for the Nation

THE UNIVERSITY OF WESTERN AUSTRALIA

MONASH University

Australian National University

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Co-Chairs' Foreword

As Co-Chairs of the "Roadmap to Recovery" taskforce it has been a privilege to work with over a hundred of the brightest scholars in Australia's leading universities to address the most pressing question of our times – How can society recover from COVID-19?

This report is independent, was not commissioned by a Government, and was produced by the leading researchers in this nation based on the latest evidence available.

How this document differs from the hundreds of articles and opinion pieces on this issue is that this report specifies the evidence on which it is based ...

COVID-19 is not just a medical or a scientific issue, it is something that affects each of us, and all of us. Therefore, this is addressed as a Report for the Nation. It is shared with the National Cabinet, our Federal, State and Territory Governments in the hope that it may help inform the many decisions they have to make.

For a problem as vast and complex as COVID-19 there is no one solution. That is why our Roadmap to Recovery, offers two alternatives, with many side roads – but all taking us to the destination. We provide choices because at the moment there are many uncertainties in the data and in predictions. Under such circumstances it is the job of our research community to illuminate the possibilities, rather than offer simple solutions.

How this document differs from the hundreds of articles and opinion pieces on this issue is that this report specifies the evidence on which it is based, it is produced by

researchers who are experts and leaders in their area, and it engages the broadest range of disciplines – from mathematicians, to virologists, to philosophers.

Over a three-week period, this taskforce has debated and discussed, disagreed, and agreed, edited and revised its work over weekdays and holidays, Good Friday and Easter. All remotely. All with social distancing. It is a testimony to their commitment to the Australian community, to our enviable way of life, to securing our standard of living, to increasing national productivity and to protecting the values all Australian's hold dear.

It is research collaboration in action – a collective expression of a belief that expert research can help Government plot the best path forward and of a commitment to provide this help in support of the nation and the Australian community.

As Co-Chairs we recognise the enormous effort expended by our researchers, and they join with the Go8 Board and with us the Co-Chairs, to acknowledge that the hardest task belongs to Government which must now make the decisions.

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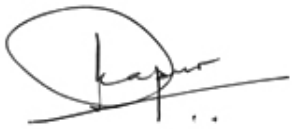

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A Roadmap to Recovery – A Report for the Nation

from Australia's Leading Universities

Executive Summary

Covid-19 has changed the course of history. What started off as a flu-like illness in one person in one corner of the world, has changed the lives, livelihoods and futures of billions. Australia saw its first case on January 25 and now has over 6,600 cases, the country is in partial lockdown, schools and universities have left their campuses, hundreds of thousands of jobs have been lost. Fortunately, the tide appears to be turning and we can start thinking of Recovery.

To chart a *Roadmap to Recovery* we convened a group of over a hundred of the country's leading epidemiologists, infectious disease consultants, public health specialists, healthcare professionals, mental health and well-being practitioners, indigenous scholars, communications and behaviour change experts, ethicists, philosophers, political scientists, economists and business scholars from the Group of Eight (Go8) universities. The group developed this Roadmap in less than three weeks, through remote meetings and a special collaborative reasoning platform, in the context of a rapidly changing pandemic.

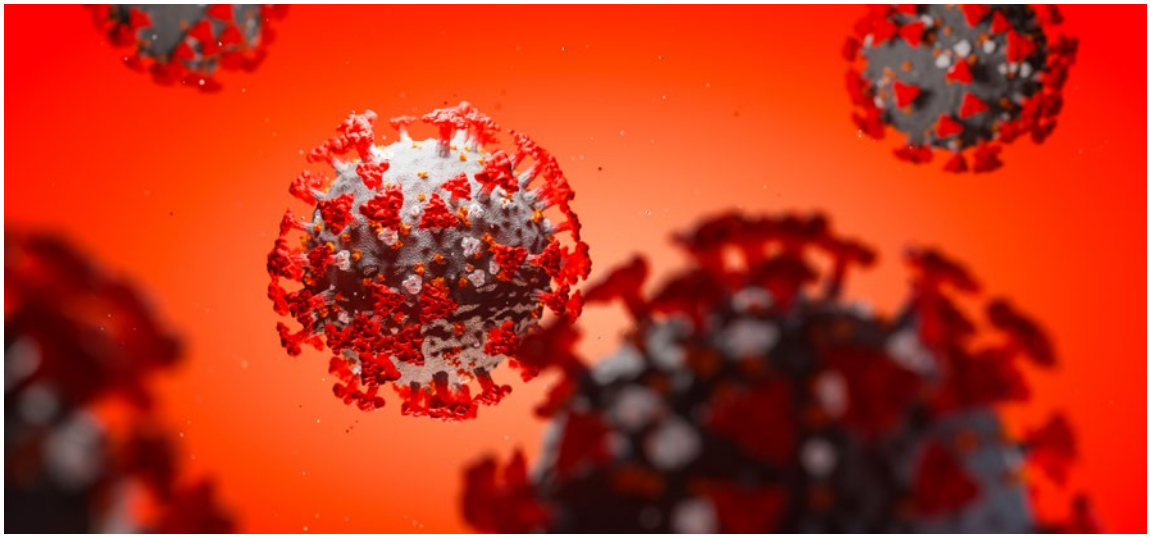
In this Executive Summary, we provide: ***one ethical*** framework; ***two options*** for pandemic response; ***three requirements*** for success in recovery regardless of which path is taken; and ***six imperatives*** in the implementation of recovery plan.

Nature of this Report and the Reasons for it

Rather than recommend a single dominant option for pandemic response in Australia, we present and explain two options for the nation's consideration – Elimination or Controlled Adaptation. We offer two choices for several reasons:

First, there are considerable uncertainties around what we know about Covid-19. Estimates of critical determinants, such as the number of carriers, vary by a factor of ten. With such uncertainties in facts, there is a limit to how sure one can be.

Second, we completed this report in late April 2020, when the Prime Minister had already set the course to May 15th. Therefore, our job was to consider possibilities beyond that date. The facts regarding the pandemic will evolve and change between now and



then. Therefore, rather than prescribe an outcome for three weeks hence – we propose to present a balanced case for two of them.

Any choice between these two options entails a delicate trade-off between protecting health, supporting the economy and societal well-being. It is not the role of researchers, or this report, to make this choice. That is the role of our Government. We are responsible for setting out the trade-offs and that is what this report looks to provide.

Finally, this report focusses on the impact of the virus and short term recovery. The pandemic will change global economies and international relations. This will have significant impacts for Australia, its society and economy for years to come. That is not the focus of this report.

An Ethical framework to guide decision making

At a time of national crisis, and in turning our minds to the recovery, it is vital to clarify the key values and principles that will guide us in the many difficult dilemmas we face. There are things we should not be prepared to sacrifice, whatever the circumstances. However, the severity of this pandemic will force us to sacrifice some things we may not have ordinarily done. Therefore, we should know the conflicting values at stake and the consequences of our choices.

We propose the following principles to guide us:

- Whatever measures we implement to manage COVID-19 must be compatible with a commitment to democratic accountability and the protection of civil liberties. Special measures that require the restriction of movement, the imposition on freedoms, and the sharing of private data must be proportionate, time-bound, grounded in consent and subject to democratic review.
- Equal access to healthcare and a social safety net must be provided for all members of our community. Attention should also be paid to the needs of the non-citizens, keeping in view their unique circumstances.
- The virus has impacted us all, some more than others. The economic cost must be shared fairly across the whole community.
- Although equal treatment is a fundamental Australian value, the virus, and our policies to control it have impacted some disproportionately. Therefore, renewal and recovery programs should focus on those most affected first. In the long run, they should foster social and economic innovation that will make all Australians more resilient in the face of future shocks.
- Finally, there is the issue of partnership and personal responsibility. Recovery is not only what Governments can do for us. Strong recovery will require a trusted partnership between governments and civil society, including business, community sector, unions, academia and local communities. Recovery is something each person owes their neighbour. We need to look out for each other's welfare in times like this. That is our way.

This is not meant to be a comprehensive or an exclusive list of values, but an effort to articulate the values that should guide our strategies today. In the long run, how we respond to this pandemic will define us.

Two Options Proposed and a Third Rejected

For any jurisdiction facing an epidemic, there are three fundamental options:

1. Eliminate the illness;
2. Suppress the illness to a low level and manage it; or
3. Allow the epidemic to run through the population in a way that does not overwhelm the healthcare system. Some have called this approach "herd immunity."

At the very outset, the Taskforce rejected the third option which would entail somewhere close to 15 million Australians becoming infected. The disruption of healthcare, the lives lost, the inequalities of impact and the tragic consequences on society did not make this a viable option for Australia, as Government has made clear. This report focused on the remaining two.

Australia is unique among comparable Western nations, and fortunate, to have two options – elimination or suppression. This is afforded because of our success in controlling the number of cases. From the peak of the epidemic in late March when we saw nearly 500 cases a day, the number of daily new cases now are fewer than 25. During the peak, 90% of cases were imported or a direct consequence of importation, a pathway that has now been practically stopped. Australia's testing rate is amongst the highest in the world, and its test positivity rate and case fatality rate amongst the lowest. This confirms the government's strategy in controlling the epidemic and the population's embrace of it.

Therefore, while most countries simply cannot consider the prospect of elimination, for Australia, a ***State by State Elimination Strategy*** remains a conceivable, and some would say desirable, option for Australia. This option is detailed in Chapter 2.

Option 1: Elimination Strategy

- The Elimination strategy should lead to fewer total infections, hospitalisations and deaths, and better protection of vulnerable populations than any of the alternatives.
- Once achieved, elimination would allow for a faster relaxation in social distancing and other restrictions.
- To achieve this elimination, Australia would likely have to continue the lockdown in certain jurisdictions beyond mid-May, possibly for another 30 days.
- It necessitates waiting for new local cases to fall to zero, and then maintaining this for two incubation periods, i.e. about two weeks.
- This strategy will require extensive testing and contact tracing, but modelling shows the extra testing should be achievable within our system with reasonable additional investment.
- It is hard to predict exactly when the cases of locally acquired disease might fall to zero, and whether current measures may need to be enhanced to achieve it. Hence the option entails greater uncertainty regarding the *timing* of relaxation of social distancing measures.
- The number of asymptomatic carriers in Australia is not known and may pose a potential risk to this strategy. However, modelling shows that provided the number of asymptomatic cases is modest, the strategy should still be viable.
- If some jurisdictions have achieved elimination and others have not, it will require extended travel barriers within Australia.
- The risk of re-introduction of cases from abroad will remain , requiring strict international border control measures. Australia's unique geography, strong border control and quarantine procedures would enable this.
- Once achieved, the psychological sense of safety and social well-being that would result from "elimination" of all local transmission would allow for a fuller and more vigorous recovery of the economy.

The second option acknowledges the likelihood of ongoing international infections, a limit to the duration of social distancing measures and the potential of asymptomatic or undetected transmission and therefore accepts that some low level of cases may remain active. It accepts this reality and tries to manage it. We call this strategy "***Controlled Adaptation***" because it entails *controlling* the spread of the virus, while making sure that society *adapts* to live with ongoing infections.

Option 2: Controlled Adaptation Strategy

- The major immediate advantage of this strategy is that the phased lifting of restrictions can begin as early as mid-May.
- The major long-term advantage of this approach is that it acknowledges the high likelihood of prolonged global circulation of this infection, and starts off by preparing Australians and the system to adapt to living with the ongoing risk of infections
- This approach provides a feasible strategy to safely manage current and future infections within the health system.
- The strategy accepts a slightly higher number of cases, hospitalisations, and deaths.
- This strategy will require extensive testing and contact tracing, but with a special emphasis on a very tight feedback to those managing the public health response so that they can adjust the restrictions, in regions, or in segments of the population, as appropriate.
- However, there is always a risk that the number of infections could spike, and some of the spikes could lead to more extensive "surges" which may require resumption of some stricter social distancing, as has occurred in Singapore.
- What is hard to predict is how confident the public will feel when restrictions are lifted with new cases ongoing, therefore economic and social life may resume slower, even though the restrictions may be lifted earlier.

What the public must know and understand

The choices are not binary, but along a continuum. They will both require some restrictions, large scale testing, tracing and isolation systems to keep us safe. In that regard they are similar. They differ in the depth, breadth and duration of how these measures are applied.

The big difference is that while Elimination will require the restrictions for a longer duration at first, it offers the reward of lower cases and greater public confidence about safety and all its attendant benefits. The Controlled Adaptation sends a signal of pragmatic acceptance of low infections right at the start, and in return promises a somewhat earlier return, greater flexibility with measures, and manages the risk of flare ups within the capacity of our adapted health system.

Neither of these two will allow for a return to life as we knew it over Christmas 2019. As with air travel after 9/11, some restrictions and impositions are here to stay. In both cases, enhanced hygiene, some measures of physical distancing and greater testing and tracing, will be the new norm.

In both cases most of us will remain susceptible. The final "exit" from both pathways will require a vaccine that confers immunity to all of us. We cannot predict when that will be. It seems reasonable to expect one in the next year or two. Should it become clear that the chance of a vaccine is remote – current strategies will need to be revisited.

The challenge over the coming weeks will be to evaluate the relative attractiveness of the two options; to assess, despite considerable uncertainty, how best to trade off the potential rewards of the Elimination option against the greater sacrifices required in a framework of values we share.

The Go8 looks forward to working with the nation and its Government to continue its contribution.

Three requirements for success

1. Early Detection and Supported Isolation
2. Travel and Border Restrictions
3. Public Trust, Transparency and Civic Engagement

Regardless of which path Australia chooses in mid-May, some things do not change.

1. Early Detection and Supported Isolation

- Both strategies will require an extensive system of testing, tracing and isolation.
- Two kinds of tests are useful. Tests detecting the virus (also called, PCR, antigen) and tests that detect personal immunity (antibody, serology). At this stage the virus-PCR test is the critical one.
- The purpose of testing is to identify the cases and isolate them, identify the contacts and quarantine them, and assess the level of community prevalence.
- Both strategies envisage that testing is widely available and accessible (including in remote areas), free of charge, with minimal wait times and a short turnaround time (less than one day). Sentinel testing, which entails testing of a few selected persons, alone will not be sufficient. Therefore, testing capacity will need to be significantly increased.
- The precise application of testing and contact tracing differs between the two strategies. In devising these new approaches Government should explore the possibility of engaging the community, private and business sector.
- In both strategies, those who are positive must isolate in a safe way – with support and monitoring in

an appropriate way. Their potential contacts must be traced and contacted, and advised quarantine and testing if appropriate.

- Isolation and quarantine should only end after confirmation of no further viral shedding.

Rather than waiting for a vaccine, we recommend that the Government fund research into developing and testing new strategies based on virus and/or immunity testing and a combination of in-country/overseas quarantine which may allow for an earlier resumption of international travel.

- Digital contact tracing apps can assist – however they are not a panacea and work best when integrated with traditional manual contact tracing methods.
- The Taskforce recommends the exploration and use of these innovative digital techniques but cautions that automatic uptake may be low, and may require public campaigns to increase acceptance. Any such use must be with the person's consent, for a time-limited period, only for the purposes of public health, and without prejudice.

2. Travel and Border Restrictions

- Given the state of the pandemic in the rest of the world, we recommend that the government continue the two-week period of enforced and monitored quarantine and isolation for all incoming travellers regardless of origin or citizenship.
- International travel bans remain on all Australians, other than for sanctioned "essential" travel, for the next six months and any returning essential travellers be subject to the quarantine restrictions.
- If some countries have their epidemics under control in a manner same as ours, then our Government may explore establishing a special bilateral travel understanding.

- The Australian Government should engage with the World Health Organisation (WHO) to anticipate a regime of "International Vaccine Certification" were a vaccine to become available.
- We do not find evidence for a reliable "immunity passport" at the moment.
- Rather than waiting for a vaccine, we recommend that the Government fund research into developing and testing new strategies based on virus and/or immunity testing and a combination of in-country/overseas quarantine which may allow for an earlier resumption of international travel.

3. Public Trust, Transparency and Civic Engagement

- Given the months and possibly years of measures and compliance that are required, winning public trust, transparency of the information used to make decisions and the degree and quality of civic engagement are critical to success.
- Communication is the central link to building trust. Prioritise trust by acknowledging uncertainty, communicating clearly and with empathy for everyone, especially those with vulnerabilities.
- The Australian population has a sophisticated understanding of Covid-19 issues and has engaged actively in the social distancing issues. Treat them as a partner by clearly communicating rationale for decisions, including what evidence is being used, who was consulted, and what impacts were considered and why a choice was made.

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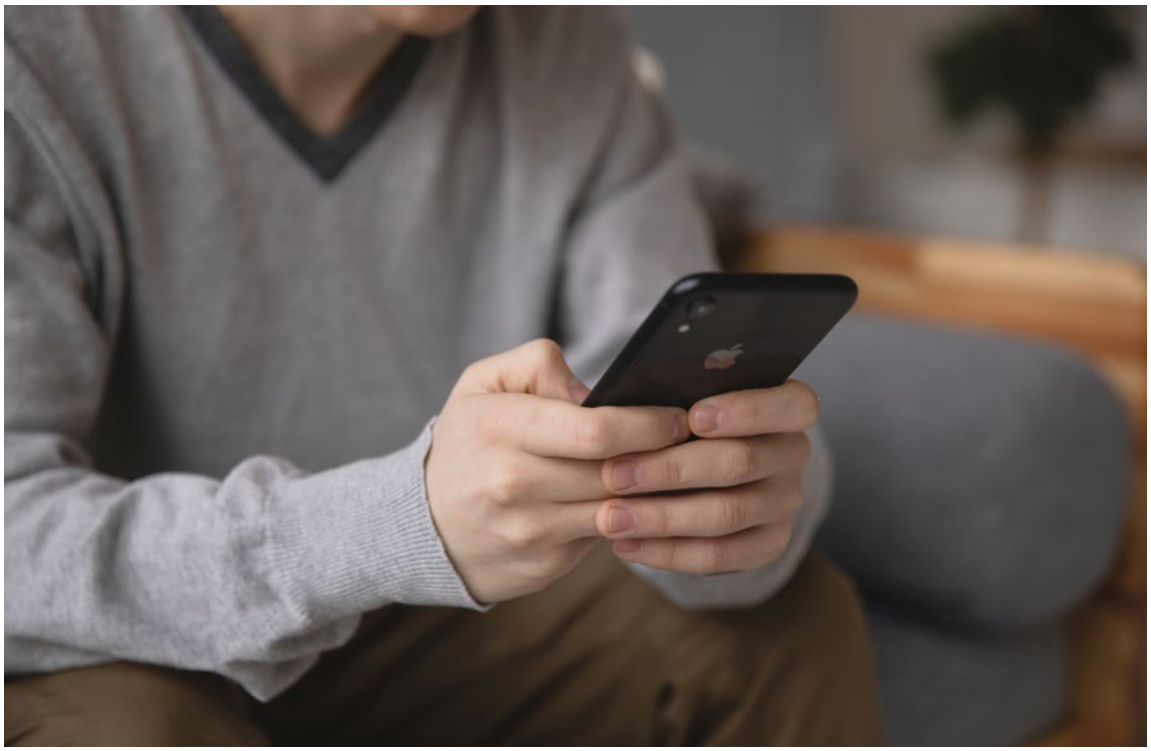
- This is especially critical if there is use of citizen-generated data (i.e., from mobile contact tracing applications). Governments must address real and perceived privacy concerns and mitigate against the potential for misuse. Where possible use trusted independent bodies to oversee some of these activities to avoid the politicisation of health data and to ensure continuity.
- Maintaining civic engagement for the long haul is critical. Where possible, involve communities, industries, business organisations, and other stakeholders in decisions about options for strengthening and/or relaxing containment measures.
- The young have been particularly displaced by the social distancing policies and many will find it hard to gain a foothold in the economy. Consideration should be given to the establishment of a funded national service program (e.g. *Aussies All Together*) to inclusively engage the young from across the nation in the process of social reconstruction across the country.



Six imperatives in the implementation of Recovery

1. The Health of our Healthcare System and its Workers
2. Preparing for Relaxation of Social Distancing
3. Mental Health and Wellbeing for All
4. The Care of Indigenous Australians
5. Equity of Access and Outcomes in Health Support
6. Clarity of Communication

1. The Health of our Healthcare System and its Workers

Australia has done an effective job of reinforcing its hospitals and its critical care capacity. For now, that seems sufficient. At the same time, the Australian health research sector has excelled by isolating the virus, developing vaccines candidates, and testing new therapeutics. However, it must now prepare for the long run and:

- Support healthcare workers by ensuring they have sufficient and assured PPE supplies and comprehensive training in the appropriate use and bespoke programs to support their mental health and well-being.
- Many have delayed or deferred their ongoing care and elective procedures. Support direct messaging to assure all Australians of the safety of the healthcare system and urge a gradual return to usual patterns of healthcare. Care of COVID-19 patients must not come at the expense of others.
- Create a national, real-time, data-repository of all COVID-19-related care in primary, secondary and acute care to ensure best care for all. This is critical because we know little about COVID-19 care now. Developing such a national resource will improve outcomes for all.

- Continue to support medical research that integrates laboratory, epidemiological and clinical trial-based and health services research that models the projected dissemination and spread of COVID-19 in an Australian context, informs strategies to minimise the number of infections and optimise the treatment of Australians.
- COVID-19 has resulted in a huge increase in video/tele-health and eHealth use. The valuable aspects of this new model should be sustained as an important part of routine health care, supported by nationally agreed standards and quality indicators. The digital divide in Australia must be closed or we risk even further entrenching existing health inequalities amongst lower income groups.
- The training and education of thousands of healthcare students has been disrupted. The National Principles for clinical education during the COVID-19 pandemic are a significant step towards flexibility in health care worker training requirements to ensure viability of the health workforce pipeline.

2. Preparing for Relaxation of Social Distancing

Australia will soon face the complex challenge of resuming campus teaching in schools and universities, and businesses returning to premises. While many will look forward to this, many others will be concerned and some will personally be at greater risk. How this transition is supported will have a major impact on societal wellbeing and economic recovery.

- Return to physical schooling with special consideration of the following groups: children in primary schools as they have additional needs in regards to socialisation, emotional and academic support and require greater parental involvement in schooling at home; students for whom this is the final year for transition to further study or employment; students and teachers who have pre-existing conditions and who may feel particularly vulnerable on return.
- All schools may need to coordinate a range of additional resources to help educators identify and address

learning gaps, mental health issues among students and concerns and wellbeing of staff.

- There is no one-size-fits-all formula for the return of all businesses. Consideration should be given to the creation of a sophisticated national "risk tool" that businesses can use to review and self-assess their own situation and create the appropriate and optimal environment for return.

There is no one-size-fits-all formula for the return of all businesses.

- A workforce health-tracking system specific to COVID-19 and should be developed to ensure that reopening practices are safe to the workforce and public. Information from such a system should be used to learn and design best practices, and those should be widely shared.

3. Mental Health and Wellbeing for All

The unprecedented scale and speed of the COVID-19 pandemic has implications for the wellbeing of all. Evidence from previous large natural disasters and pandemics shows that in its aftermath there is a significant increase in anxiety, depression, post-traumatic stress syndromes as well as substance abuse. These symptoms extract a huge individual and family price and a significant economic toll. People with psychological vulnerabilities and pre-existing mental illness are at higher risk. The greatly increased demand for services will continue throughout the recovery phase. The following is recommended:

- Coordinated and sustained public health messaging on the risks associated with COVID-19 and actions that can be taken to maintain mental health and wellbeing.
- Rapid scaling of secure evidence-based Health and Telehealth interventions in addition to strengthened provision of community-based support.

- Increased capacity to ensure timely assessment and effective treatment for people with ongoing mental illness and those at risk of suicide.

4. The Care of Indigenous Australians

The disproportionate impact of pandemics on Indigenous populations worldwide is well documented. Thanks to the leadership by Australian Indigenous organisations and their partnership with Governments, the number of cases is proportionately lower. However, Indigenous Australians are particularly at risk as Australia "reopens" with a weakened economy and the resulting consequences.

Lack of adequate housing particularly adversely affects the ability of local aboriginal health services to control virus spread – immediate and more enduring interventions are needed to address the shortage of appropriate housing.

- We recommend the continued financial and logistical support of Indigenous COVID-19 planning taskforces in all jurisdictions for the remainder of the pandemic.
- Lack of adequate housing particularly adversely affects the ability of local aboriginal health services to control virus spread – immediate and more enduring interventions are needed to address the shortage of appropriate housing.
- The COVID-19 pandemic has exacerbated vulnerabilities of local workforces which were dependent on staff from interstate and even New Zealand. Short and Long-term initiatives to build local workforce capacity are needed.

5. Equity of Access and Outcomes in Health Support

History tells us that pandemics affect those with the least resources and with specific vulnerabilities hardest and longest. We must guard against that. Subsequent generations will judge us for how equitably we supported and included in decision-making the people who are most at risk.

- The report identifies several populations that are particularly at risk: women who are pregnant and women at risk of family violence, children and young people, those living in out-of-home care; older adults and those living in residential aged care; people with disabilities; people living with a life-threatening illnesses amongst others.
- Those who are at the intersection of these attributes, often bear the greatest brunt.
- The main purpose of this section is to alert the nation to its special responsibilities to these many populations.
- The main thrust of our recommendations is that there isn't a single silver bullet for all these diverse populations. However, a central principle is for Governments to engage and partner with these groups in designing and delivering solutions for them.

It is also critical that the public understand that even with the Elimination Strategy, life will not return to the 'old normal'.

6. Clarity of Communication

The overall success of the recovery will depend upon engaging widespread public support and participation regardless of which strategy is chosen.

If the Elimination Strategy is pursued, it is important that the public understands the additional sacrifice needed, why it is worth it and what benefits they can expect

in return. It is also critical that the public understand that even with the Elimination Strategy, life will not return to the 'old normal'.

With the Controlled Adaptation strategy, it is critical that the public understand that in exchange for an earlier relaxation, there will be a need for ongoing adaptation. The public should also be prepared that should numbers worsen, the course may need to be temporarily reversed. This would not be a failure of the strategy – rather it *is* the strategy.

Several community reference groups should be established so that collectively, they represent Australia's demographic and socio-cultural diversity.

It is important that Governments continues to:

- Communicate the approach and associated measures using specific and empathetic language that helps people feel empowered to act, rather than just passive recipients of instructions.
- Enlist the support and assistance of independent, credible and trustworthy advocates (e.g. healthcare workers, educators, community leaders) to convey key messages.
- Enhance the impact of communication by establishing community reference groups to provide ongoing input into the decisions that affect them and also how best to communicate them. Collectively they should represent Australia's demographic and socio-cultural diversity.
- Be proactive in identifying and actively combatting misinformation and conspiracy theories by transparently providing factual and current information.

Details regarding all these recommendations and the evidence on which they are based is provided in the long version of this report.

Methodology

The Roadmap project was designed to provide considered and evidence-based responses to questions of critical and pressing national importance.

Experts were recruited from across the Go8 universities – Australia's leading research-intensive universities – in areas as diverse as epidemiology, statistical modelling, infectious diseases, public and mental health, psychology, economics, political scientists, Aboriginal and Torres Strait Islander expertise, business, international relations scholars and political scientists.

Individuals ranged from eminent professors to early career researchers, to capture the diversity of expertise across generations of talent.

The Task Force faced the challenge of articulating the collective wisdom of this large and diverse group on a complex set of questions in a short period, under conditions of great uncertainty and rapid change and where no members could physically meet.

Standard remote collaboration methods, such as circulating drafts by email, have many drawbacks such as the difficulty of keeping track of document versions, integrating edits and comments on many different versions, and ensuring that everyone can see the latest version. It seemed clear this approach would struggle with an expert group as large as the Roadmap Task Force.

The Steering Committee made the bold decision to try a new crowdsourcing-inspired approach. All members were given access to the SWARM cloud collaboration platform, a research prototype being developed by a team at the University of Melbourne's Hunt Lab for Intelligence Research. The platform is the result of a three-year research effort funded by the US Intelligence Advanced Research Projects Activity, aimed at developing better ways to support groups of analysts to work through difficult problems and produce high-quality reports. The platform's design is generic enough that it can support analytical work in many other domains.

Methodology

On the platform, all Task Force members were able to access nine workspaces, one for each of the main questions being addressed. Within a workspace they could view, create, and collaboratively edit contributions of various kinds, including draft section reports; rate and comment on contributions; and use real-time chat. While these activities are supported by many cloud platforms, a combination of design features makes the SWARM approach unique. These include:

- A "groupsourcing" model in which small teams from within the large expert pool coalesce and self-organise to tackle specific questions;
- Support for "contending analyses," where any member can put up a draft report and the group as a whole can select the most promising via "readiness" ratings;
- Use of pseudonyms, intended to mitigate social dominance effects arising from the differing status of members.

The Steering Committee understood from the outset that the approach would need to be carefully monitored and that adjustments may be required. In the second week, three such changes were made: addition of new Task Force members to cover expertise gaps; off-platform video-conferencing to accelerate coordination of small emergent teams; and, where appropriate, relaxation of anonymity.

By the end of week 2, draft reports were available for all nine questions. These were woven together into a single Final Report by a small editing team from the Group of Eight Directorate. Task Force members were briefly given a final opportunity to provide comments. The Final Report was then reviewed by a team of selected independent commentators and approved by the Go8 Board of Directors before being provided directly to Government.

The result is a comprehensive, independent, evidence-based report for Government that provides guidance as to how and when Australia can move to the recovery phase.

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