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LEARNING TOGETHER: GLOBAL LESSONS
IN TACKLING COVID-19

July 2020

Delivery Associates

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PEMANDU Associates is a consulting firm focused on socio-economic transformation, business turnaround and digital marketing and design.

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Foreword

The COVID-19 pandemic has posed unprecedented challenges to people and governments across the globe. The threat forced governments to act in ways they could barely have imagined only a few months early – and at scale and speed.

Because the situation was unprecedented, there was no playbook and no firm evidence base, on which to determine decisions. As a result, governments around the world reacted in a variety of different ways. Now, as a number of countries begin to emerge from the crisis, it is becoming possible to learn what worked well and what worked less well.

This report attempts to capture those lessons by examining the actions of the twenty countries that the data shows have been most effective in managing the crisis and limiting its impact so far. Of course, the variation in country performance is not solely a result of the actions of their governments; geography and demography, for example, clearly play a part.

In the past, we have both worked in senior positions in government. Since then, we have both worked with governments on every continent. We know how difficult it is to govern well; and especially how difficult it is to manage through a crisis of these proportions. You have to make tough decisions under pressure in the full glare of publicity – and some of those decisions may not work out well. We respect and honour all those who faced up to the challenges and have worked hard to lead countries through this crisis, not just those whose approaches turned out to work best. Our intention is to enable learning, not to allocate praise or blame.

We realise we are still in an early phase of humanity's response to the crisis and that the conclusions we reach here have to be considered provisional rather than definitive. Nevertheless, we hope summarising them at this early stage will assist those responsible for the continuing response to COVID-19 - a major threat to us all for some years given the timetables required to develop universally applicable vaccines. It may also assist countries in ensuring preparedness for future pandemics.

In due course, we plan a follow up report looking at the economic consequences of the pandemic and what we can learn about governments' response to them.

Idris Jala and Michael Barber
June 2020

The COVID-19 crisis is far from over. Now is the time to learn fast.

The COVID-19 pandemic has forced government leaders around the world to act decisively in response to an unpredictable crisis. Governments have had to make decisions based on limited knowledge and experience. The variation in results is growing: some countries continue to see new cases rise daily, whilst others are emerging from a first peak and beginning to achieve substantial recovery. These differing experiences offer us a body of knowledge on what may work. This is a critical time to learn fast from these examples of effective practice. As new outbreaks arise even in countries that largely had the virus under control, it is important to use these early lessons to inform the difficult and high-stakes decisions that lie ahead.

PEMANDU Associates and Delivery Associates aim to facilitate exactly this kind of cross-country collaboration and learning for governments as they continue their fight against COVID-19. Here, we summarise the key findings of our upcoming Global Pathfinder Report, an in-depth look at the response from countries that have made early progress in managing the crisis. This document is designed to facilitate quick learning in an ever changing environment – the detailed analysis and case studies will be available in the full report published on 4 August and accessed via the Delivery Associates and PEMANDU websites.

The story of this pandemic – and government response to it – is a fast-moving one. While we recognise that it is not yet possible to draw final conclusions on best practices, there are still many meaningful and actionable lessons from the last several months. What you see here represents our best learning to date and information that we hope to keep updated as this work continues.

Scope of learning

The COVID-19 pandemic has changed all our lives in ways we never imagined. Since 31 December 2019, more than nine million people have been infected[i], over 475,000 deaths have been recorded, nearly half of the global workforce are at risk of losing their livelihoods,[ii] and our social behaviours have changed in unprecedented ways.

The PEMANDU Global COVID-19 Index (GCI) was lunched on 4th June and is the world's first comprehensive, evidence-based system for measuring the effectiveness of government response using publicly available data. It allows us to ask the question: what can we learn from the countries whose response and recovery have been strongest?

The top 20 ranked GCI recovery index countries can offer important lessons on how to improve public health outcomes whilst managing the COVID-19 crisis. These twenty countries include low, medium, and high-income countries that have all ranked highly in both the severity and recovery indices of the GCI. Sweden was also included due to its unique approach to the virus.

Whilst the effectiveness of interventions will necessarily vary for countries in different contexts, some clear trends emerge for consideration as governments shape their future response. These trends tend to fall into five categories: testing, contact tracing, movement restriction, strategic reopening, and public engagement. These interventions are strongest when implemented together and sequenced strategically. For example, countries that have deployed contact tracing without parallel increases in

testing capacity are unable to diagnose accurately and respond rapidly. And a lack of clear and consistent communication can undermine public compliance with even the best response measures.
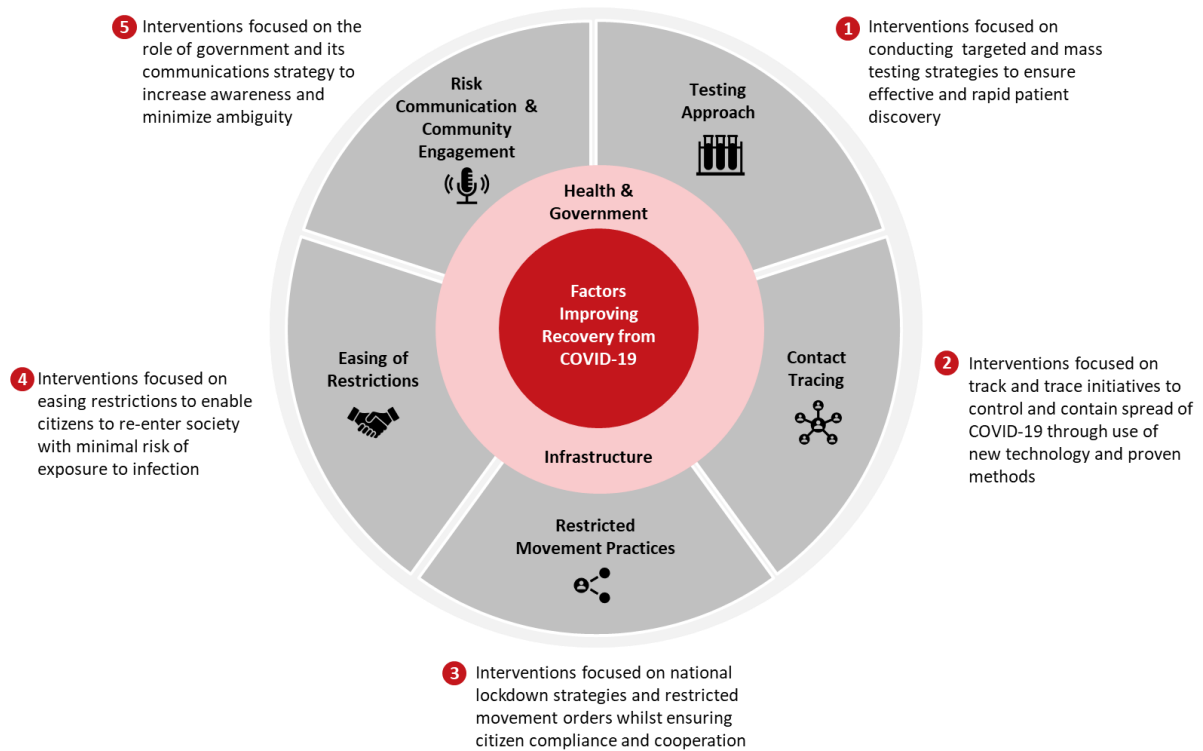

Figure 1: Health Recovery Interventions

Health recovery interventions explored

The details vary by context, but early data suggests that where countries have deployed all five health-recovery related interventions systematically and rapidly, their GCI recovery ratings so far have been maintained and/or improved. A holistic view is therefore needed as we look to those early lessons to inform the fast-but-flexible approaches needed as we enter the next stage of the response.

1. Testing approach: critical from response to recovery

Testing has proven critical to the ability of governments to rapidly identify cases, and deploy appropriate mechanisms designed to prevent the mass spreading of COVID-19. This not only has important consequences to immediate public health but enables broader understanding of the virus to inform the global response for years to come. Three clear trends in testing appear important not just to early responses, but the efficacy of strategies as countries reopen and rebuild:

> **Test big, target carefully:** Implement large-scale testing as soon as possible, with priority target groups identified.
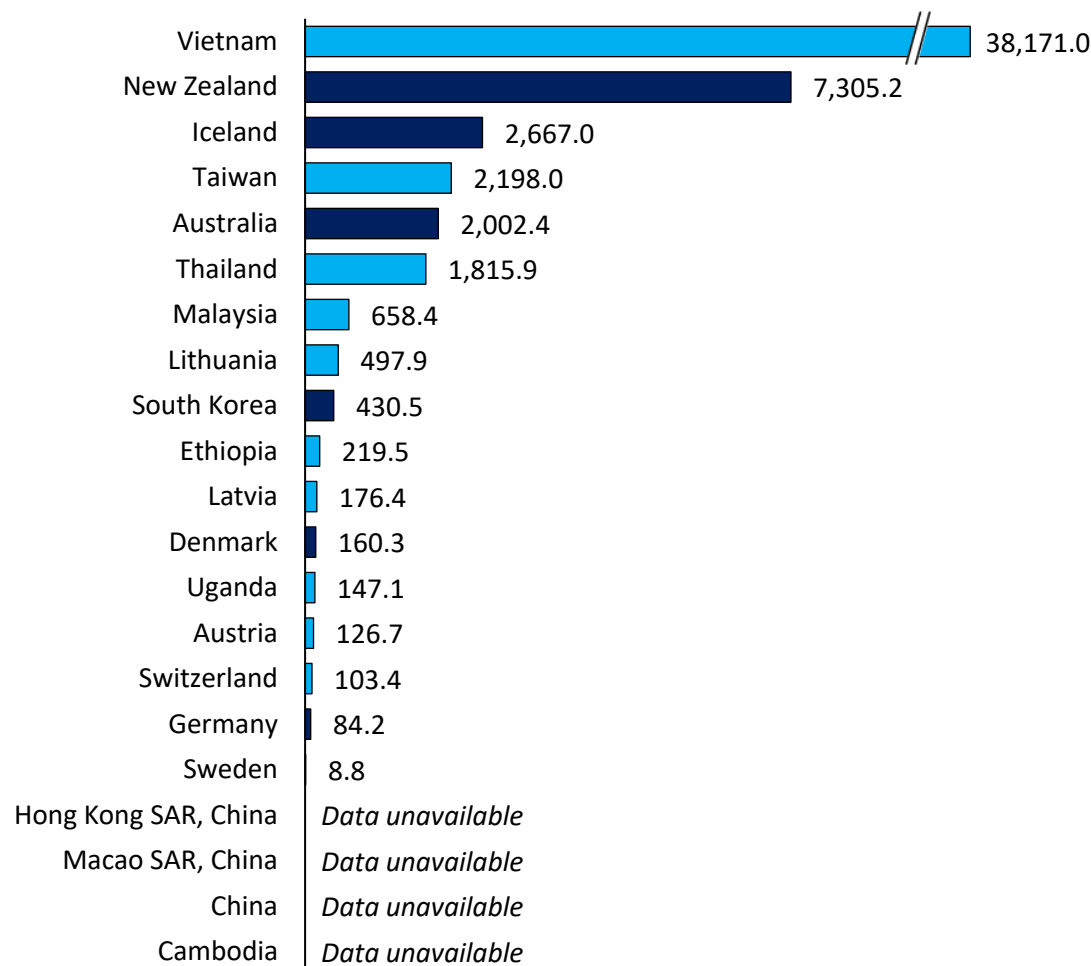
Maximise access: Enable community participation in mass testing and isolation for those infected.

Leverage your whole system: Capitalise on public-private partnerships to optimise testing capacity and capability.

Test big, target carefully

Many countries such as New Zealand, Iceland and Australia have conducted hundreds of tests for each confirmed case.[1] This mass testing approach, with follow-up targeted to high-risk communities and identified infection clusters, appears to break the transmission chain both in the early response, ongoing maintenance of a low R-number, and elimination of the virus.

Number of COVID-19 tests per confirmed case for top 20 GCI countries, and Sweden

Country	Value
Vietnam	38,171.0
New Zealand	7,305.2
Iceland	2,667.0
Taiwan	2,198.0
Australia	2,002.4
Thailand	1,815.9
Malaysia	658.4
Lithuania	497.9
South Korea	430.5
Ethiopia	219.5
Latvia	176.4
Denmark	160.3
Uganda	147.1
Austria	126.7
Switzerland	103.4
Germany	84.2
Sweden	8.8
Hong Kong SAR, China	Data unavailable
Macao SAR, China	Data unavailable
China	Data unavailable
Cambodia	Data unavailable

Source: Official sources collated by Our World in Data as of 18 May 2020
Figure 2: COVID-19 Testing Statistics for Top 20 GCI countries and Sweden

New Zealand's Ministry of Health began testing four weeks before the country's first confirmed case and continue to deploy the highest number of tests per confirmed case in the world at 5,950. With 9 active cases as of 22 June, after having eliminated community transmission altogether, the

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[1] Tests per confirmed case is defined as the number of tests conducted over the number of positive COVID-19 diagnosis. This measurement provides a good assessment of how widely countries are testing by comparing the number of tests they do to find a COVID-19 case.

government continued to expand widespread population testing. This prioritised those disproportionately affected by widespread outbreak including Māori and Pacific populations and those with respiratory symptoms.[iii] Large-scale testing that is equity focused and emphasises priority target groups appears to be effective at containing both early outbreaks and new clusters at all stages of the response.

The detailed case study on how **New Zealand** managed mass testing will be available in our upcoming full-length report.

Maximise access

Many low to middle income countries do not yet have well established surveillance technology or healthcare systems in place for mass testing of COVID-19. It is challenging to build this infrastructure overnight, and governments have innovated quickly to make it easier for citizens to comply.

Rwanda, for instance, has conducted 175.1 tests per confirmed case – among the highest in the world, by repurposing laboratories that normally test for HIV. The government has established random testing capacity in communities, hospitals, and clinics across the country. This easy access to testing facilities has allowed the government to conduct 50,000 COVID tests since April 2020.[iv]

The detailed case study about how **Rwanda** encouraged community compliance will be available in our upcoming full-length report.

Leverage your whole system

Governments have optimised their testing capacity quickly by partnering with private sector players. Growing testing capability will be difficult to do in the public sector alone, and it will compete with recovery and rebuilding efforts for attention and resources. Countries such as Iceland, Malaysia and Denmark show the potential to test at scale through active partnerships with private laboratories and healthcare providers.

Iceland's government, for instance, worked with deCODE Genetics, a pharmaceutical company that conducted roughly 80% of the country's COVID-19 tests. To date, more than 15% of the country's population have already been tested: a higher percentage than any other country in the world. By not exclusively testing those with COVID-19 symptoms, Iceland demonstrates that large-scale testing can generate more accurate insights on the prevalence of the virus in a community, providing governments with necessary data for timely action.[v]

Details on how **Malaysia** and **Denmark** optimized their testing capacity through public private partnerships will be available in our upcoming full-length report.

2. Contact tracing: a holistic approach

Contact tracing is a tried and tested disease control measure, and the last several months have taught us how to apply it to this particular virus. Three key lessons have emerged that are consistent across geographies and phases of the epidemic:

> **Combine approaches:** Manual and digital contact tracing should be implemented together to address the gaps and limitations in the two approaches.

Focus on user adoption: Where digital contact tracing apps are deployed, establish clear and implementable data privacy laws to encourage participation.

Maintain the infrastructure to respond: Ensure the adequate access to testing facilities and clear advice on self-isolation needed to make track and trace strategies meaningful.

Combine approaches

Manual contact tracing is a proven method, but it is also labour intensive and expensive. In a pandemic the scale of COVID-19, it will be difficult to contain the spread of the virus using only this method. Equally, many digital contact tracing applications still require further development and refinement. Often centrally managed track and trace initiatives, such as those seen in **South Korea and Hong Kong** correspond with continued reduction in case numbers and a high GCI recovery index, but understandably the centralised approach is not always an option everywhere.

For this reason, many countries are combining digital technology (to rapidly identify exposed individuals) with trained manual tracers to ensure contacts obtain and follow the right medical advice. Countries that have successfully maintained or improved their recovery index (in the top 10 GCI ranking) have taken a holistic approach that involves both manual and digital contact tracing. South Korea is the only country so far that has seen a dip in its recovery index, highlighting the importance of combining track and trace interventions with other key mechanisms such as restrictions on public movement.

Encourage user adoption

Scientists at Oxford University estimate that as much as half the population, including those with limited mobile penetration rates, need to use a digital tracing solution; and that manual interventions need to be provided in tandem, for it to have a sustained impact on the spread of COVID-19.[vi] Given contact tracing applications use sensitive information around citizen profile, health, and travel history, concerns about citizen privacy have often stood in the way of user adoption to this required scale. Many governments have overcome this and encouraged adoption by ensuring six distinct parameters are in place to ensure the digital contact tracing app fulfils its objectives whilst providing assurance to users on data privacy. Specifically:

- Voluntary download, ensuring explicit permission from the user is required by the app.
- Clear limitations on data use outside of direct public health objectives.
- Policies that ensure data destruction once no longer required for public health purposes.
- Protection to minimise data sharing.
- Transparency on exactly what data is being collected, and how it will be used.
- Clarity on where data is being stored – either in a centralised entity or decentralised, held on personal devices.

Countries such as Australia have done this well: the Privacy Amendment Bill (2020) and legislation that prevent user data from being moved offshore have quelled public concerns. This new law has a clear commitment to end data initiatives once the pandemic is over.[vii] This combined with a clear and transparent communication effort has helped to assure the public.

Maintain the infrastructure to respond

Contact tracing is only effective if it changes behaviour – specifically, the testing and quarantining of exposed contacts. Without the necessary testing and isolation capacity, contact tracing may not impact recovery – and in fact, it may undermine the credibility of the contact tracing system itself. When test and trace measures work, healthcare systems face inevitable increases in demand, meaning the medical infrastructure including health personnel will need to be ready to cater to it.

South Korea follows up any identified cases through the contact tracing app with investigators from the Korea Centre for Disease Control and Prevention. These investigators interview individuals who test positive for COVID-19 and are able to quickly isolate any potential at-risk contacts through monitoring of credit card transaction records and GPS data from mobile phones.

3. Restricted movement practises

In the last few months, 91% of the global population have lived under some form of travel restriction[viii].

Almost every government used restricted movement orders to slow down the spread of the pandemic and prevent healthcare systems becoming overwhelmed by a peak in COVID-19 caseloads. Though countries are gradually reopening, they will need to be ready to reintroduce some form of movement restriction again when new outbreaks occur.

What can we learn from how the first round of lockdowns were implemented to help inform the tough decisions that governments will inevitably have to take in the months and years ahead? The data show key trends in effective practice from countries who were able to both restrict movement and maintain recovery trends:

Restrict movement: Close international borders and restrict local mobility to prevent the import of foreign cases and buy time for adoption of preventive and protective measures domestically.

Use a data-driven approach: Track caseloads alongside system capacity to test, trace, isolate, and treat; adapt lockdown stringency accordingly.

Restrict international movement

Closure of international borders, whether early or late, can reduce the import of new COVID-19 cases. In some countries, new cases dropped to zero within a month and a half of restricting international non-essential travel. Restrictions in international movement work best when combined with restrictions in local mobility to reduce community transmission. China exemplifies this approach well, suspending public transportation including buses, railways, flights and ferry services to all cities in the

province of Hubei, from where the outbreak originated. In high risk areas, such as Wuhan, entire households were prohibited from leaving the house. In addition to strict lockdown enforcement, community mobility was heavily monitored and regulated through technological interventions.

How this time is used is key. In order to be ready to reopen in the future, governments must use the lockdown period to build total system capacity to manage the disease effectively – in particular, the capacity to test, trace, isolate, and treat COVID-19 patients, their contacts, and others with symptoms or at risk.

Countries, such as **South Korea** and **Taiwan**, also deployed a series of restrictions on local mobility, while restricting international movement. Learn more in our upcoming full-length report.

Use a data-driven approach

At the start of the pandemic, countries adopted various mobility restriction strategies. The Oxford Stringency Index classifies these responses in 4 categories: very strict, strict, moderate and relaxed. Of the 20 top ranking countries in the GCI index, all of them fell in the first three categories suggesting that lockdowns can help maintain or improve recovery of COVID-19 cases.

Denmark for example falls into the 'very strict' category, transitioning all education services to remote learning, requiring all non-essential employees to stay home, and banning assemblies of more than 10 people.[ix] The recovery index in Denmark jumped 27.2 points from its lowest point since the onset of COVID-19. **Taiwan** and **South Korea** fall under the 'moderate' classification. Both countries coupled less stringent lockdowns with mass contact tracing and testing supported by technological solutions and have still seen, albeit more modest, jumps in their recovery index.

These responses are highly contextualised, with no one-size-fits-all approach. Early analysis suggests that a coherent strategy, that tailors the stringency of lockdown measures based on the capacity to test, track and isolate cases, are most effective at maintaining health recovery outcomes.
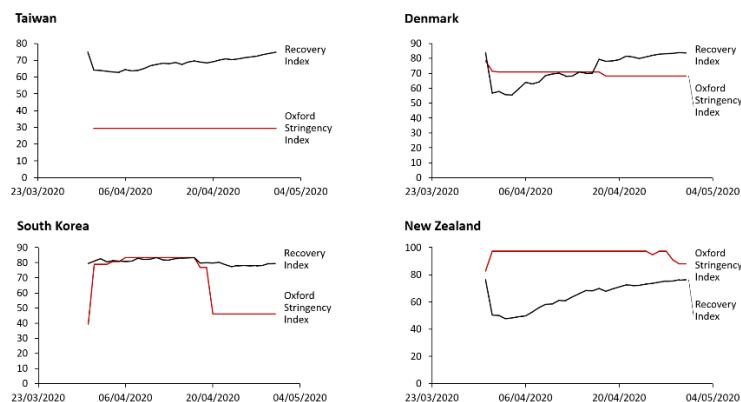

Figure 3: Comparison of lockdown stringency with COVID-19 recovery index

As we wait for the data to come in for countries who have fully removed restrictions on movement, this learning could be key to managing future outbreaks whilst minimising the impact on economic and social well-being.

4. Easing of restrictions

With markets, industries and educational institutions closed for months, many governments are faced with the challenge of how to reverse the pandemic in the face of sustained negative economic and social impact. It is too early to tell what effect decisions made to reopen the economy will have on the long-term recovery trajectory. Yet clear trends have emerged from countries reopening at different stages of viral spread, and these can help inform effective decision-making moving forward:

Data-driven reopening: Use data to guide decisions on when to open different sectors and ultimately the economy as a whole.

Targeted reopening: Reopen targeted parts of priority sectors with adequate support and guidelines in place to facilitate safety.

Data-driven reopening

Deciding when and how much to relax a lockdown requires an analysis of both health and economic risks. Lifting a lockdown too early can bring a second wave of infections, while lifting it too late can bring an unnecessary economic loss. There is no one answer to this.

So far, countries that have started to reopen sectors based on improvements in COVID-19 data have maintained a strong recovery.

Often, the ability to use big data to track real-time rise in infections and target a rapid response coincides with access to smart technology. From mobile applications with geolocation data in South Korea and Taiwan, to the QR codes on public transport systems in China to register contact information and improve track and trace efforts, digital technology has played an outsized role here. Yet most countries in the top 20 ranking of the GCI index, from **New Zealand** and **Austria** to **China** and **Switzerland**, have been able to use real-time data to develop economic roadmaps that are targeted and phased, and flexible enough to adapt to the rapidly changing dynamics of the pandemic.

Lockdown relaxations in **Australia** were particularly strategic. A four-phase roadmap to gradually ease lockdown measures and resume economic and social activities was put into place once new cases decreased in April. Each phase was spaced apart by 3-4 weeks, and became progressively more flexible on social distancing, gatherings, reopening economic activities, and travel. Although this 'roadmap' was clearly detailed before implementation, it was revised and updated by authorities once implementation began, to address new information on disease spread[x].
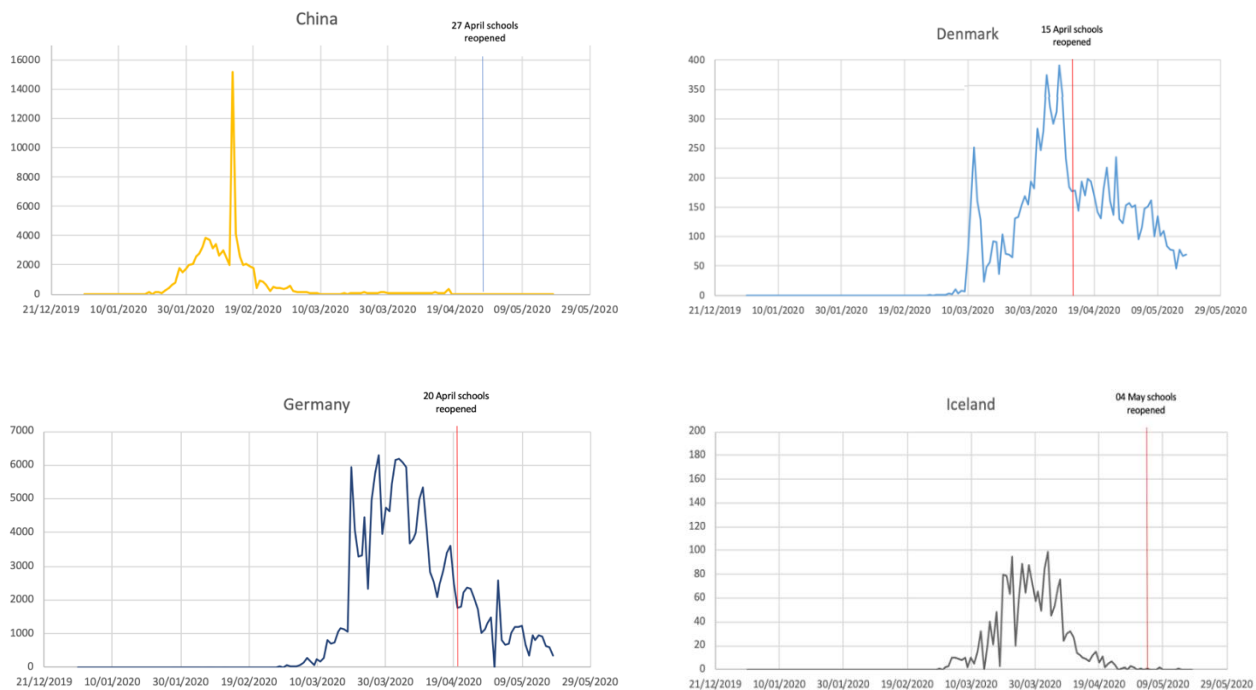
Figure 4: Continued reduction in daily COVID-19 cases despite reopening of primary education (source: GCI index)

This has also been illustrated by effective approaches to stage reopening of the education sector in six countries all currently maintaining a strong recovery. The staged return to on-site schooling allowed time to monitor the data and evaluate the effects of increased movement of people on community transmission. This data-informed approach helped governments like **New Zealand's** to set out detailed guidelines for multiple levels of 'alert' in response to COVID-19, which saw all educational facilities closed at level 4, through to current level 2 status in which all schools, early learning centres and tertiary institutions are open with distance learning options for those unable to attend school.

This phased reopening allows government strategies to adapt to new information as the changing dynamic of the pandemic evolves, complimented by clear snap-back mechanisms to keep the recovery trend on track in the face of potential new outbreaks. **Germany** witnessed an increase in the reproduction number in early May when initial restrictions were eased. Yet the government agreed to monitor the data and snap-back into targeted lockdown measures at county level if any local area exceeded 50 new coronavirus cases per 100,000 residents.[xi] This type of coherent national framework, combined with cooperative local implementation to improve adherence, will require strategies to build and sustain public trust and manage uncertainty. Yet early indications are that these reopening strategies can pay off, with Germany maintaining good health recovery outcomes.

Learn more about **Australia's** 4 phase reopening approach in our upcoming full-length report.

Targeted reopening

For key sectors like education, effective governments have deployed a range of measures, including testing and screening to identify and isolate individual clusters, to reopen early and avoid whole sector re-closures. While each country may prioritise different sectors for reopening, the story of education reopening can teach us some early lessons. Additionally, education is more likely to be a priority sector in many countries, given the central role that schools play in relation to the rest of the workforce.

In **Denmark**, for instance, reopening was phased to allow social distancing between students. Learning 'pods' (groups of students) were initially restricted to 4 students. With weekly updates to the government guidelines this has increased to class 'pods' of 28, complemented by strong hygiene practices including near-hourly handwashing in every classroom. Schools have the flexibility to interpret and adapt some guidelines, with many still offering blended options of on-site learning with online teaching to avoid overcrowding at schools. Devolving some decisions to the local level has proven effective, enabling consideration of contextual factors in decision making. Early interaction between the government and school community representatives (such as the Danish Union of Teachers) has also been key, ensuring compliance to reopening guidelines across the ecosystem.[xii]

Learn more about the staged return to on-site schooling approach, adopted by **Denmark**, in our upcoming full-length report.

5. Risk communication and community engagement

Risk Communication and Community Engagement (RCCE[xiii]) has been a vital tool to inform and guide the public during the COVID-19 pandemic. When done well, an RCCE response can facilitate the dialogue between government agencies and the public to help reduce anxiety, build trust and inform better decision-making. The effective practices captured in our full-length report can help inform government strategies to provide a coordinated information response – one that is tailored to the local context and increases compliance to health guidelines:

Keep it simple: Run clear and simple campaigns with high communication frequencies that engage local communities.

Get the medium right: Understand and use the channels where the public learns, trusts, and responds to information.

Keep it simple

Having a centralised and coordinated public communication strategy can help improve compliance with response policies and ultimately lower infection rates. The most effective RCCE strategies tended to have the following characteristics:

- **A centralised platform** to help the flow of accurate information to the public. This included establishing risk communication systems with internal government and external partner coordination and alignment around key procedures.
- **Uniform messaging** across all COVID-19 related communications to minimise confusion and improve public compliance. As decisions become more political, and less directly focused on health outcomes alone, addressing uncertainty and misinformation will be more important than ever.
- **Two-way communication** (especially at the local level)**.** Engaging local communities in the communication process through hotlines and call-in radio programmes has created a feedback loop that helped informed further COVID-19 responses.

Engagement with and buy in from citizens has proven essential in smooth implementation of policies enforced by the government. Identifying the people within communities who have the public's trust

and using them as spokespeople for COVID-19 updates and statistics can gain most traction in encouraging the public to comply with government guidelines.

Vietnam ensured high audience engagement rates with its communication campaign. Read how they achieved this in our upcoming full-length report.

Get the medium right

The medium matters as much as the message. Both during the peak of the crisis and in the long period of recovery that comes after, the need for transparent information is critical. Effective governments work hard to understand the most trusted channels through which citizens and residents get their information. This informs prioritisation of media with the necessary reach and velocity to keep the public continuously well-informed on the latest COVID-19 information and responses.

Learn how Finland leveraged its social media influencers for COVID-19 communication in our upcoming full-length report.

The way forward

As we wait for an effective vaccine or treatment, governments around the world will continue to have to take tough and sometimes unpopular decisions to tackle the ongoing COVID-19 pandemic. There are few precedents for what we're dealing with right now; lessons from these last several months will therefore have outsized value to guide us in the days to come. These insights will be critical to manage through the crisis and to rebuild with greater equity and resilience.

This report aims to shed light on the countries that have maintained strong recovery progress so far and to highlight common themes across the actions they have taken in five key categories of health intervention. For more information on the policies and implementation behind these results, please see our more detailed publication, Learning from Effective Practices to Manage COVID-19.

Looking ahead, there are some obvious next questions to answer: how do we revitalise the economy without risking the progress made in stopping the spread of the virus? How do we emerge from the crisis stronger, more resilient, and more just? This will require further radical thinking – and further rapid learning from those on the leading edge of this work. Through this and future reports, we hope to continue this learning and to contribute knowledge that equips our partners in government to take on the generational challenge that lies ahead.

[i] World-o-Meter, 26 June 2020
[ii] COVID-19: Stimulating the economy and employment, International Labour Organization (ILO), 29 April 2020
[iii] COVID-19 Current Cases, Ministry of Health, 26 June 2020
[iv] How Iceland Beat the Coronavirus, New Yorker, 1 June 2020
[v] Rwanda: Rwanda's Successes and Challenges in Response to COVID-19, Atlantic Council, 24 March 2020
[vi] NHS contact tracing app could halt spread of coronavirus if half of population download, Oxford study finds, The Telegraph, 16 April 2020
[vii] COVIDSafe App – Part Two: Legislation passed to address privacy concerns – What it means for you, Mondaq, 18 May 2020
[viii] More than nine-in-ten people worldwide live in countries with travel restrictions amid COVID-19, PEW Research Center, 1 April 2020
[ix] Estimating the effects of non-pharmaceutical interventions on COVID-19 in Europe, Flaxman, S., Mishra, S., Gandy, A. et al, Nature, 2020
[x] Website, Department of the Premier and the Cabinet – Government of Western Australia, 17 March 2020
[xi] Renewed outbreaks in South Korea, Germany and China show continued risk as more countries seek to reopen, James Griffiths, CNN, 11 May 2020
[xii] How Denmark sent children safely back to school, ITV, 20 May 2020
[xiii] Risk Communication and Community Engagement (RCCE) Guidelines, World Health Organisation