**PROTECTING CANADA'S BORDER AGAINST INTRODUCTION OF COVID-19**

by Peter Nicholson, Vivek Goel and Jeff Larsen[1]

This paper proposes a procedure to manage international entry to Canada in a way that minimizes the risk of introducing COVID-19 infection and thus permits the nation's economic and social activity to be safely restored to the greatest feasible extent. If required, the procedure could also be applied in respect of travel across provincial borders. The paper concludes with a summary of the argument and an Appendix outlining the variety of entry restrictions in an illustrative sample of 10 countries plus the European Union.

***The Challenge***

Management of the COVID pandemic can be likened to management of a forest fire—first you control the blaze; reduce it to a smolder; and then focus on spotting and snuffing out any sparks the moment they appear. In the COVID-19 context, lock-down is needed to get the raging infection under control. Restrictions then reduce the cases to the point where "community transmission" has essentially been eliminated. Then strategically-targeted testing enables any new cases to be quickly spotted, after which contact tracing and follow-up are employed to ensure that the new infections are ring-fenced before they can re-ignite community spread.

As the number of new infections in Canada declines toward zero, the time is approaching when community transmission of the virus within our borders will have been essentially eliminated.[2] In principle this achievement could permit removal of all COVID-related restrictions on economic and social activity inside Canada, provided there was assurance that the virus could not be reintroduced by infectious travellers entering from abroad. Schools could re-open normally in September; hundreds of thousands of jobs could return; public finances could begin to stabilize; optimism could be re-kindled. When it comes to border entry policy in the COVID era, the stakes could not be higher.

At the same time, Canada cannot remain effectively closed to the rest of the world for at least the year, or possibly much longer, before a vaccine arrives and has been *widely* administered.[3] Our current policy is to deny entry to all but a limited number of categories of travellers and to

[1] See brief biographies and the end of the document.

[2] Several provinces, including each of the Atlantic Provinces, have already eliminated community transmission and the others have seen the incidence of new infections either at a low level or on a gradual declining trend.

[3] There is guarded optimism that a safe and effective vaccine could emerge by early 2021 as a result of worldwide efforts. But this is far from certain and even after a vaccine has been proven in trials, its manufacture and sufficient global and national distribution may take an additional year or more. In short, Canada should be prepared to be living with COVID-19 for what could be another 2-3 years.

require a 14-day self-quarantine ("Q-14") of most of those who are permitted to enter.[4] This may pose only inconvenience for returning residents, or students, or longer-term visitors, but a two-week quarantine is unacceptable for tourists and completely impractical for travellers on business and for shorter-term personal reasons. Not only is the Q-14 approach to border control very damaging economically but, due to a largely "honour system" implementation, it may also be too porous as a means of infection control.[5] Official monitoring of the self-quarantine rule is possible in principle, and there are fairly stiff penalties for violation. But in practice, enforcement resources are extremely limited (unless they were to employ digital tracking apps) and there is anecdotal evidence of widespread non-compliance. Moreover, responsibility is distributed along a chain beginning with the Canada Border Services Agency, passing to the Public Health Agency of Canada and then to Provincial authorities, and ultimately to a police force; creating several opportunities for links to be broken. In short, the Q-14 *status quo* appears to be the worst of both worlds—economically destructive and inadequately protective. In the mid-to-longer-term Canada's present approach is unsustainable.

A better procedure is urgently needed to make the border more transparent while keeping the risk of introduction of the virus to an acceptable minimum. This paper proposes what we believe is a better approach.[6] The procedure described in what follows could be implemented by any jurisdiction but our focus here is on application to Canada as the federal government considers when and how to open safely to other countries.

### *General Considerations*

Following are several key factors to be considered.

- *Public Health:* Ideally, the border measures would provide complete certainty that the virus cannot be introduced. The present honour-system quarantine does not come close to that standard. In Canada's case, with so much essential movement to and from the US—for starters, think food—there will inevitably be some new infections. We have to live with that. The issue is to keep the number of imported infections very low so that our highly competent public health systems—testing, contact tracing and case management follow-up—can squelch the spread of infection before it can become established. There will inevitably be some trade-off between the severity of containment measures and their cost in terms of other

[4] Those workers deemed to be performing essential functions are not required to quarantine. The entry restrictions, as at July 6, 2020, can be found at https://www.canada.ca/en/immigration-refugees-citizenship/services/coronavirus-covid19/travel-restrictions-exemptions.html

[5] An international survey conducted by iCARE found that of those with confirmed or suspected COVID-19, 16% did *not* self-isolate "most of the time." https://mbmc-cmcm.ca/covid19/stats-wave1/stats-wave1b-3/ Greater non-compliance might be expected among those who were not aware that they might be infected.

[6] We prepared the paper on our own initiative as a document for discussion and refinement. It was written originally in a Nova Scotia (or Atlantic Provinces) context since once those jurisdictions eliminated community transmission, the preservation of that status depends on policy to prevent reintroduction of the virus via entrants.

objectives and practicalities.[7] But the better the capacity of the public health system to contain the cases that slip through, the less restrictive the border measures need to be, other things being equal.[8]

- *Economic and Social Welfare:* Every modern economy depends on cross-boundary flows of people; and the smaller the economy, generally the more dependent.[9] While business and non-essential travel have been sharply curtailed during the lock-down phase of COVID-19 containment, they must eventually recover substantially, even if not to the former level. There are also psychological and many other non-economic costs when travel out of the country is severely impeded by the prospect of a two-week quarantine on return. A more sophisticated approach to border management of COVID-19 is needed.
- *COVID Fatigue:* The success of individual provinces and territories in suppressing the corona virus inevitably leads to increasing complacency as new cases are kept to zero or very low numbers. The economic and psychological cost of continued restrictions, despite some relaxation, will appear to many to be no longer justified to curb a vanishing health threat.[10] The risk of non-compliance with Q-14 is therefore likely to increase. Ironically, the very success of containment undermines the procedures that have enabled it. A new approach to border management is therefore needed to respond to these new circumstances.
- *Collaboration:* The creation of a "bubble" within which there would be free movement among jurisdictions in Canada—e.g., as the Atlantic Provinces have implemented—has obvious benefits. But since the participants in a bubble have to agree collectively on the border security measures, the parties may need to accept less than what would be their individual preference. This will be a particularly important consideration as Canada decides to relax international border restrictions since every entry point also affects a province or territory. Again, trade-offs must be faced in the course of negotiation.
- *Public Confidence:* The public has been taught to have a mortal fear of the corona virus—as was necessary to secure acceptance of lock-down. But it has been much easier to scare people than it will be to *un-scare* them. Meanwhile the virus is still out in the world; the media still dote on the fear factor, emphasizing worst-case scenarios; infections are increasing alarmingly in the US; and authorities warn of a fall wave. Thanks to government assistance a great many people have adapted well to restrictions—e.g., retired people on pensions may see relatively little benefit, compared with *perceived* risk, from a complete resumption of economic activity and thus may be opposed to any relaxation at the border.

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[7] *Dealing with COVID-19: A Balanced Response*, an open letter to the Prime Minister and Premiers, July 6, 2020.
[8] The federal "Safe Restart" initiative will provide assistance to provincial and territorial governments in response to proposals to build up their public health capacities to minimize the risk of future uncontrolled waves of COVID-19.
[9] The cost of the pandemic to the national and to individual provincial economies cannot yet be confidently estimated, but based on national and international estimates it might be in the range of 6-10 percent of GDP in 2020 (and possibly greater) with weakness persisting into next year. A reduction of national GDP by, say, 8% would represent about $185 billion in lost wages and profits. Any measures that diminish these losses would have a very large payoff. See also *Surviving the Economic Recovery: Living with COVID-19* https://www.apec-econ.ca/.
[10] As other jurisdictions open to international travel—e.g., as the EU and Iceland have (see Appendix)—the pressure will increase for Canada to develop a policy to permit non-essential cross-border travel from at least some countries.

There will be a daunting communications challenge: (i) to convince a significant fraction of the population that border reopening is safe, and (ii) to convince others, desperate to get fully back to normal, that enhanced border vigilance is still necessary to prevent re-ignition of community transmission.

- *Operational Feasibility:* The border control measures will achieve their objectives depending on their reliability, ease of compliance, and speed of processing—three factors that are partially in tension and therefore present another set of tough trade-offs. Moreover, given what is at stake for the economy as a whole, and particularly for sectors like airlines and hospitality and tourism, the procedures need to be up and running as quickly as possible.[11] There is no room for bureaucratic inertia, turf protection or resource skimping.

***Options for Border Entry Control***

Potential options to reopen Canada's border to entrants from abroad range in principle between the extremes of (a) *complete isolation of travellers*—essentially what New Zealand and Hong Kong have imposed, in which all entrants are tightly quarantined in government-provided supervised facilities for two weeks,[12] to (b) *uncontrolled entry*—except for those that are somehow known or suspected of being currently infected. Canada's largely self-enforced Q-14 approach (for those permitted to enter) is closer to the unrestricted end of the spectrum.

A new procedure is needed that reduces the likelihood of reintroduction of the virus in a way that strikes the best balance among the foregoing key considerations. Following is an outline of one potential entry procedure, defined as a logic tree, which contains several parameters that would be determined so as to strike an optimal balance among the key considerations. It is emphasized that the procedure would be developed under federal jurisdiction but many aspects of implementation would fall under provincial jurisdiction. The approach would therefore need to be developed collaboratively.

[11] Tourism accounts for 2% of Canada's GDP and almost 4% of jobs. Estimated revenue of tourism-dependent business in 2018 was $100 billion. Tourism demand is a major factor in the viability of more than 100 thousand small businesses, prominently food and drink establishments, arts and culture activity and the accommodation sector. Without a substantial recovery of tourism (both domestic and foreign) a great many of these businesses will not survive. They are often in areas with few alternative employment opportunities.

[12] New Zealand, for example, has imposed exceptionally stringent border measures that require all entrants, including returning residents, to spend 14 days in government-supervised residence, and has secured 10,000 rooms for the purpose.

1. **ARRIVE AT A BORDER CONTROL POINT** [13]

2. If you are in a category that is **Exempt** from entry restriction (e.g., an essential service provider), then pass through. (This procedure is already in place.)

3. If **NOT** exempt, do you have an *approved* **Entry Plan** as described below?

4. If you **DO NOT HAVE** an Entry Plan, can one be arranged on the spot while you wait? If **NOT,** do you agree to enter a **Designated Quarantine Facility**?

5. If you **AGREE** to be quarantined, you will be led to a designated facility (which might be operated by the federal government or by a Province or Territory) and quarantined for 14 days, or possibly less if you are able to arrange for an Entry Plan that is approved, or undergo a testing regime as described below (Option 1). If you **DO NOT AGREE** to enter a designated quarantine facility**,** you will be refused entry.[14]

6. If you **DO HAVE** a pre-approved Entry Plan, or have been able to arrange one on the spot, then proceed in accordance with the Entry Plan.

Prospective entrants to Canada would be required to complete and submit for approval an Entry Plan (described more fully in the next section) that would provide two basic options:

**Option 1: Two-Week Testing Schedule**; or

**Option 2: Risk-based Waiver**

Based on the information submitted in the Entry Plan, the government would assign the prospective entrant to either Option 1 or Option 2; or decline to approve the Entry Plan (or request more information).

**Option 1** would *not* ordinarily involve a 14-day quarantine but would require the entrant (including a returning resident) to commit to report for COVID-19 testing at designated testing sites within 24 hours; and again between days "**x**" and "**y**" (e.g., days 5 and 6); and possibly again between days "**u**" and "**v**" (e.g., days 11 or 12). There might be a requirement for the entrant to self-quarantine for a short time pending the result of the first test. Moreover, entrants

[13] The procedure described here assumes that there is no reason to believe that the entrant has active COVID-19. If disease is suspected, mandatory isolation would be required for returning residents, and non-residents would be refused entry as is presently required for entrants who show symptoms. It should be strengthened to include an immediate test and *supervised* isolation until public health authorities decide that isolation is no longer necessary.
[14] Except for returning residents, those who accept supervised quarantine might be required to pay the full cost since they have the option not to enter Canada. There could be extenuating circumstances in which some returning residents might receive a reduced rate.

from countries determined to be of "high risk" might be refused entry altogether or required to self-quarantine until a second test was negative as well.[15] The test schedule would be designed by public health authorities to maximize the probability that an *active* infection acquired prior to entry to Canada would be detected as soon as possible.[16] Provided all tests were negative, the entrant would be considered cleared. The number of test sites—which would normally be operated by the Province or Territory in question—should be substantially expanded and procedures implemented to ensure the quickest feasible collection of samples and return of results.[17] A rapid point-of-care test would be ideal and might be trialled, with back-up by RT-PCR, until proven reliable in operational settings.[18]

Monitoring compliance with the test schedule agreed in the Entry Plan would be straightforward since the designated testing facilities would have received a notification. (The location, but not the timeframe, could be changed subject to mutual agreement.) The first test should be administered at the actual point of entry provided it did not cause undue delay owing to traffic volume; and otherwise as soon as possible after entry and within 24 hours. If the entrant violated the testing agreement, the first resort would be to consult a location app (discussed later) provided one had been downloaded and activated; and the next would be to attempt phone contact directly. Failing that, police could be notified.

Persons without an Entry Plan who agree to enter a designated quarantine facility should be subject to the same test schedule as prescribed in Option 1, and would be released in less than 14 days if all required tests were negative.

**Option 2—**Low-risk Waiver**—**would *not* require the entrant to quarantine or to be tested. It would be similar to, but more precise than, the new European Union procedure which no longer requires a 14-day quarantine for entrants from an approved group of countries, including Canada, that are assessed to be relatively low-risk (see Appendix). Option 2 would potentially be available to those whose Entry Plan established a sufficiently low risk to justify waiving the

[15] The identification of a "high risk country" could be based on regularly updated statistical indicators that COVID-19 infection was not under good control—e.g. daily new infections per 100,000 population; testing rates. This general approach has been adopted by the EU. Truly essential travel (without a Q-14 requirement) would still be permitted (e.g. between Canada and the US), but extra precautions would need to be implemented.
[16] The ability of the standard RT-PCR test to detect the virus varies over the course of infection and will vary somewhat from case to case. Typically, a person may begin to be infectious to others about two days after exposure to the virus. If symptoms develop, they will usually appear by day 5 or 6 after exposure. If a person has been infected prior to entry, and is still infectious, a PCR test at day 5 or 6 would very likely detect the infection. Nevertheless, the risk of missing an infected person who then goes on to infect others can never be completely eliminated. Contact tracing provides the back-up and is effective provided the infection incidence remains low.
[17] The federal Safe Restart initiative will provide important support in this regard. There remains the question as to whether the entrant would pay for all, or some fraction of the cost of the required tests, the volume of which could be very large as travel patterns return closer to normal.
[18] Several "Point of Care" tests have been approved or are in advanced evaluation. They may eventually provide a more effective means to conduct surveillance testing of populations (e.g. border entrants) than the RT-PCR test—see https://www.medrxiv.org/content/10.1101/2020.06.22.20136309v2 .

conditions of Option 1. Option 2 is designed particularly for business travellers and short-term visitors (e.g. tourists intending to be in the jurisdiction for a matter of days), although it would potentially be available for any other entrant. Option 2 would also be available to *residents* who re-enter the jurisdiction, typically after a short absence on a business trip or for personal reasons. An Entry Plan based on Option 2 would permit unrestricted entry if the applicant:

a) had received a confirmed diagnosis of COVID-19 prior to entry and whose case was confirmed to have been resolved. Such an entrant could be assumed, with very high probability, to be non-infectious and immune[19]; or
b) was considered to be sufficiently low risk based on a defined set of considerations such as:
    i. intended length of stay (fewer days reduces transmission risk)[20]
    ii. country, region or other sub-area of residence or point of embarkation for Canada (locations of low prevailing community transmission of COVID-19 imply lower risk)[21]
    iii. intended purpose of stay (e.g. to attend a large public event or business conference would signal increased risk)
    iv. a confirmed positive result on one or more approved antibody tests (increasing the probability of immunity)
    v. evidence of a very recent negative test for COVID-19
    vi. agreement to install and keep activated a location tracing app (to increase assurance of compliance)

None of the foregoing criteria is definitive but, in some combination, they could indicate that the likelihood of transmission of the virus while in the relevant jurisdiction would be extremely low. The thresholds and weighting of these criteria would be determined so as to balance the six key considerations noted earlier. A "score" that exceeded a certain threshold would permit entry under Option 2. Failing approval under this risk-based waiver, a prospective entrant (or re-entering resident) could be admitted under Option 1.

Option 2 would require very little compliance monitoring since entry would have been pre-approved without further formal conditions. There is some risk that the applicant might provide false information on the Entry Plan, and end up staying longer than promised, or for a different purpose. Such risks are probably low and would be lower still if the entrant agreed to use a location tracing app.

[19] It has not yet been definitively established that prior infection by SARS-CoV-2 confers immunity, nor for how long, although it is generally believed, based on experience with the corona viruses responsible for SARS and MERS, that some period of immunity—at least several months—is very likely. Entry under (a) might nevertheless depend on more definitive evidence that infection confers immunity for the relevant period.

[20] In the case of a returning resident, the factors affecting risk would be those encountered while away.

[21] The prevalence of community transmitted infection in the entrant's area of residence (or embarkation) is a very significant indicator of risk but is obviously not definitive since infection can also be acquired in the workplace or in social situations outside one's area of residence. To apply the regional risk criterion, there needs to be up-to-date access to COVID-19 incidence data differentiated by country, region, or sub-area.

All Entry Plans, regardless of assigned option, would probably require those with smart phones to download and keep activated the nationally recommended COVID Alert contact app which notifies users if they have been in recent close contact with another user who tests positive for COVID-19 and enters the fact in their phone. It is generally accepted that this app—which is based on Bluetooth and not GPS technology—does not create privacy concerns and it therefore can be required of all entrants who have smart phones.

***The Entry Plan***

A prospective entrant would submit by email (or fax or post) a documented plan, based on a template, which covers the time the entrant intends to be in Canada—or in the case of a *returning resident,* the time away.[22] The Entry Plan would have elements such as the following, the number and details of which would need to be determined so as to balance security objectives with ease of compliance.[23]

a. Standard personal ID including passport, home address, phones, email, health card ID, perhaps driver's license ID. (A current photo might be required—easy for anyone with a smart phone.)
b. Intended date and place of entry as well as mode (e.g. auto, plane, train, vessel, foot/bicycle)
c. Intended length of stay
d. Intended itinerary: e.g., overnight locations; names of reserved places if known; names and contact info of friends/family with whom one intends to visit or stay
e. Intended purpose(s) of visit (perhaps based on a pre-loaded checklist)
f. Name and contact info of a person—e.g. employer, if relevant—in your home community. (This could aid follow-up if the entrant were to "disappear")
g. COVID Status: official record of a confirmed diagnosis; official record of one or more serologic tests; official record of most recent (viral) test, if any. (A very recent negative test would decrease the risk posed by the entrant.)

Some information, such as COVID status, might require scanned images to be submitted. The plan would be evaluated by a trained and specialized unit in the federal government—or in some cases delegated (based on nationally standardized procedures) to the Province of first entry. Much of the needed systems infrastructure already exists to handle the federal government's electronic Travel Authorization (eTA) and could be extended to process Entry Plans. As an incentive to provide valid information, applicants would be informed that there would be spot checks and any false information would automatically result in denial of entry. The plan could eventually be primarily evaluated by software, but initially evaluation would be manual

[22] The Plan would need to be submitted sufficiently far in advance of intended arrival/departure to allow for assessment and response by the government. This will depend on operational factors, including the extent to which assessment could be at least partially automated.
[23] The ArriveCAN app (which entrants are currently asked to use) requests some of the information required for an Entry Plan. Several countries require a rough equivalent of the proposed Entry Plan—e.g. the UK (see Appendix).

according to well-defined criteria to decide "accept/reject" or "require more information". The applicant would receive a decision by email within "**x**" days.[24] Each Entry Plan would have a unique identifier and would be sent to the stipulated entry point and, in the great majority of cases, would permit a very rapid pass through. The administration of a swab test at the entry point could of course cause significant delays at times of heavy traffic but could be mitigated by assigning more testing lines and/or instructing entrants to report (within 24 hours) to a testing facility away from the border.

Ideally, airlines would agree to deny boarding to passengers entering from outside Canada who do not present approved Entry Plans. At the very least the ticketing web sites should warn would-be entrants that they will be refused entry or quarantined if they do not have an approved Entry Plan.

For Canadian residents the Entry Plan would actually be a Re-entry Plan. Option 1 does not distinguish between a visitor and a returning resident, whereas the risk assessment in Option 2 could be somewhat less stringent for a resident since their information and compliance may be more easily verified. For short trips at least, the Re-entry Plan would be approved before departure and the risk assessment—to determine assignment to Options 1 or 2—would depend largely on the destination, purpose of the trip and length of stay.

Note that the requirement to submit and have approved a formal Entry Plan would in itself "harden" the border since it creates an initial hurdle that would tend to deter those lacking a sufficiently strong purpose to enter Canada. And the well-documented information required in the Plan demonstrates serious intent on the part of the government and thus increases the incentive for compliance and responsible behaviour.

***Further Issues***

The foregoing border procedure is presented for discussion and refinement. There will be many issues of detail that have not been anticipated in the outline—e.g. how to deal with an Entry Plan for a group travelling together and whether or not to require a testing regime for children under a certain age. Operational considerations will loom large in the early days before information systems can be implemented to enable automation of most aspects of evaluation. Streamlining would be needed if border control were to be in place for many months. The immediate objective is to get something in place as quickly as possible. There will be learning by doing. Public health vigilance will be relied on to ring-fence any mistakes that slip through.

In conclusion, several further considerations will need to be addressed:

[24] Special arrangements will be made for those without access to email, but the lead times would need to be greater.

- Although Options 1 and 2 have been presented separately, some features might be mixed and matched. For example, Option 2 with one immediate post-entry test would diminish risk and increase the likelihood of approval of such an Entry Plan.[25] Another variant—perhaps simpler to implement—could be to distinguish between "high risk" and "low risk" countries with (i) entrants from the former either refused entry or required to self-quarantine and be tested at least twice, then released from quarantine if tests were negative; and (ii) entrants from low-risk countries tested on entry but not required to quarantine. As operational experience accumulates, features of the options could be added or subtracted.
- The procedure proposed in this paper does not include the prevailing Q-14 option—other than for those who require supervised isolation—because we believe that the alternative Options 1 and 2 are clearly superior from an economic perspective and, in practice, can be at least as effective in keeping COVID-19 out of Canada. If it is nevertheless decided to retain the Q-14 option—e.g., during a transition to a more effective approach—it should be well monitored, probably with the aid of a location-identifying digital technology.[26]
- All entrants, until cleared, should be encouraged to behave in a way that would reduce the risk of infecting others—to wear a mask in public; to avoid large gatherings, particularly indoors; to take extra care in the presence persons who are vulnerable to serious consequences of COVID-19. It might be decided that mask wearing in public should be mandatory until an entrant is cleared, although this would obviously be difficult to enforce and might have a stigmatizing effect except, of course, in cases where mask wearing by everyone was recommended or mandated.
- The federal government's existing resources and agencies already have most of the required capabilities to design and implement the procedure—perhaps as an extension of the existing Electronic Travel Authorization—with several key elements deployed in collaboration with the Provinces and Territories. Because the COVID-19 challenge is novel and time is pressing, a full-time commitment of the best talent that can be assembled, including public communications specialists, is necessary.
- The proposed procedure is based on assessment of a prospective entrant as an individual. But there could also be a blanket prohibition on (non-essential) entrants from any given country or region that was judged, at the time, to present unusually high risk overall. At the present time this would include the US among others. This is the approach currently adopted by the

[25] Iceland, for example, requires all entrants to be tested at the airport but otherwise does not impose restrictions.

[26] One simple method to check compliance is to make regular phone calls to the quarantine location. This is presently being done, but coverage is difficult to assess based on public information. Moreover, since most people use mobile phones, a way to verify the phone's location is needed. With co-operation from the service provider the approximate location of an answered call could be made available to the health authority. This approach is used in Taiwan. A more intrusive approach, as in Hong Kong, would be to require a quarantined person to activate a GPS-based smart phone app, or failing that to wear a "GPS bracelet" during the self-quarantine period. A GPS location tracing app would enhance the ability of health officials to trace contacts, but the Canadian public and courts would need to be convinced that the pressing public purpose would justify some infringement of privacy. That could be mitigated with appropriate safeguards—e.g. anonymization until there is an infection; regular deletion of records; and regulatory oversight from the privacy commissioner.

EU where entrants are admitted or barred based on the status of the pandemic in their country of residence—e.g. residents of the US are currently not permitted to enter the EU.

- Several countries are now relaxing border restrictions and/or no longer require that entrants be quarantined. Some are employing variants of the procedure proposed in this paper. Canada is fortunate to be able to learn from their early experience which consequently should be followed closely.
- It cannot be over-emphasized that the border reopening plan will need to be communicated to the public so as to create *trust and confidence*. Without widespread public confidence, the economic benefit of greater openness will be severely stunted. Public communications will be an exceptionally challenging task that will require great professionalism in its design and unquestioned credibility in its delivery.

***Summary***

1. Canada is gradually approaching the elimination of community transmission of COVID-19.

2. Once this happens, the restrictions that have profoundly inhibited economic and social life could be substantially if not completely relaxed provided the risk of new infections entering via Canada's border could be reduced to an acceptable minimum.

3. The present closure of the border to all but a few categories of entrant is costly in economic and social terms and will be unsustainable over the many, many months before a vaccine arrives and can be *widely* administered. How might the border be opened?

4. The prevailing "Q-14" policy for entrants profoundly discourages most cross-border business and personal travel but, because it is largely self-enforced, it also risks increasing non-compliance. The policy is bad for the economy and inadequate for health protection.

5. A better procedure is needed that can enable greater ease of entry for people *and* a lower risk of entry of the virus.

6. It is proposed that persons intending to enter Canada first submit an "Entry Plan" containing information by which the government would assess the risk that they might be carrying COVID-19.

7. The prospective entrant (if admitted) would be assigned to one of the following options:
   *Option 1*: No quarantine, but the entrant would be tested on arrival, or within at most 24 hours, with a 2nd test a certain number of days after entry, and possibly a 3rd test several days later. The schedule of the tests would be determined by public health authorities to minimize the likelihood of an undetected infection.

*Option 2*: No quarantine or test requirement, but permission to enter Canada under this option would depend on an assessment—based on the person's Entry Plan—that the risk of the entrant being infected was extremely low.

8. The options could be interpreted in light of a determination of the status of pandemic control in the entrant's country, with stricter conditions (including refusal to allow entry) applying to "high risk" countries.

9. Responsibility for the entry procedure would rest with the federal government but several aspects of implementation would be handled by Provinces and Territories. A collaborative approach will be needed.

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**Professor Vivek Goel:** Special Advisor to the President and Provost at the University of Toronto and a Professor in the Institute of Health Policy, Management and Evaluation at the Dalla Lana School of Public Health. Professor Goel is a distinguished scholar with an extensive background in teaching, research and university administration. He obtained his medical degree from McGill University and an MSc in Community Health from U of T and an MS in Biostatistics from Harvard University School of Public Health. His research has focused on health services evaluation and the promotion of the use of research evidence in health decision-making. Professor Goel joined the University of Toronto in 1991 and went on to eventually serve as the University's Vice President and Provost from 2004 until 2008. He was a founding scientist at the Institute for Clinical Evaluative Sciences (ICES), where he continues as an Adjunct Senior Scientist. He served as founding President and CEO of Public Health Ontario from 2008 until 2014, where he was highly successful in building an academic public health services agency that provided scientific and technical advice to front-line practitioners. He returned to the University of Toronto as Vice-President, Research and Innovation, and Strategic Initiatives and served in

that role from 2015-2020. He has extensive experience in governance and serves on the boards of the Vector Institute, TRIUMF (Vice-Chair) and the Canadian Institute for Health Information (Vice-Chair). He is a member of the COVID-19 Immunity Task Force, the Governing Council for CanCOVID, the national research platform for COVID-19 research.

**Jeff Larsen:** Educated in law and business, Jeff Larsen holds a BA from McMaster University, a Juris Doctor from the University of Toronto, a Master of Laws from Osgoode Hall Law School and an MBA from the Imperial College, University of London. Currently he is the Executive Director of Innovation and Entrepreneurship at Dalhousie University in Halifax and is also the Site Lead for the Creative Destruction Lab – Atlantic. He has also held senior positions in the investment sector as VP and General Counsel of Halifax-based Clarke Inc. and as Executive Director of Business Management and Chief Compliance Officer with CIBC Asset Management in Toronto. In keeping with his entrepreneurial and management experience with new businesses in the energy sector, Mr. Larsen is the co-founder of Seaforth Energy, Watts Wind and Katalyst Wind.

## APPENDIX: COVID-RELATED ENTRY RULES IN SELECTED COUNTRIES

Following are summaries of the restrictions on entry imposed by a sample of countries—i.e. The EU, Germany, Iceland, Norway, UK, Australia, New Zealand, Japan, South Korea, China, and US. The information is believed to be current as at July 6, 2020.

**European Union:** The European Council has recommended that from July 1, 2020, EU countries allow entry for nonessential travel to **residents** (not nationals) from several countries, including Canada, Australia, New Zealand and Japan, among others. The primary criterion was that the identified countries have a COVID-19 infection rate similar to or lower than the EU average, and will allow EU travelers to enter their territory (i.e., have a reciprocal agreement). The European Council's recommendation is not mandatory and individual EU and Schengen Area countries will now decide whether to follow this advice. Travelers from these countries may be subject to quarantine measures, provided these also apply to nationals of the EU member state imposing them. Residents of other countries will remain barred from entry in the European Union and Schengen Area until the infection rate in their country of origin improves, unless covered by a specific exemption, such as an essential worker. Most notably, residents of Brazil, Russia, and the United States are not on the first iteration of the European Council's recommendation list. The list will be reviewed every two weeks using the European Commission's checklist, which analyses the COVID-19 infection rate against the EU average as well as reciprocal travel agreements.

Sources: https://www.lexology.com/library/detail.aspx?g=a3e2fc70-b37f-4646-9638-d6b7be91c2de For more complete and official detail see https://data.consilium.europa.eu/doc/document/ST-9208-2020-INIT/en/pdf as well as *Communication on the third assessment of the application of the temporary restriction on non-essential travel to the EU (COM (2020) 399)* (11 June 2020).

**Germany:** Only people entering the Federal Republic of Germany from a **risk area** are required to stay in quarantine for 14 days. A risk area is an area where various quantitative and qualitative criteria (most importantly, more than 50 new infections per 100,000 residents and government-ordered protective measures) indicate that a higher risk of infection with the coronavirus SARS-CoV-2 exists at the time the traveller enters the Federal Republic of Germany. The names of countries considered risk areas are published on the website of the Robert Koch Institute. According to the model ordinance, the quarantine requirement does not apply to travellers in transit through Germany who show no symptoms of infection with COVID-19, or to people who have a doctor's certificate stating that they show no signs of infection with the coronavirus SARS-CoV-2. The federal states issue rules on quarantine under their own authority.

Source: https://www.germany.info/us-en/-/2355466

**Iceland** (July 1 2020): Iceland will soon lift travel restrictions for residents of fifteen states (which includes Canada) outside the EU/Schengen Area in line with the decision of EU Member States. Icelandic authorities are preparing the implementation of EU guidelines and a new regulation will be issued within the next few days. All passengers arriving from these states must

complete pre-registration and *choose to undergo a PCR test or a 14-day quarantine* upon arrival in Iceland.

Source: https://www.government.is/news/article/2020/06/30/Travel-restrictions-for-residents-of-15-countries-to-be-lifted-soon/

**Norway** (June 25 2020): From 15 July, we plan to lift travel restrictions for a number of countries/regions in Europe. The global travel advice will no longer apply to these countries. Exactly which countries will depend on the infection situation. An up-to-date list of countries that are no longer covered by the global travel advice will be available on the Institute of Public Health website. As a rule, you will not have to go into quarantine when you return to Norway from these countries. However, this is dependent on the infection situation not worsening. [Note: Norway's self-quarantine is for 10 days (not the typical 14) and appears not to be rigorously monitored.]

Source:https://www.regjeringen.no/en/topics/foreignaffairs/reiseinformasjon/travel_coronavirus/id2691821/?expand=factbox2721035

**UK** (July 3 2020): From 10 July 2020 you will not have to self-isolate when you arrive in England, if you:

- are travelling or returning from one of the countries with travel corridor exemption
- have not been to or stopped in a country that's not on the travel corridors exemption list in the previous 14 days

[Note: Canada and the US are not included on the corridor exemption list, but most EU countries, plus Australia, NZ, Japan and So Korea, and many others are.]

If you have been to or stopped in a country that's not on the travel corridors exemption list you will have to self-isolate until 14 days have passed since you left that country. When you arrive in the UK, you will not be allowed to leave the place you're staying for the first 14 days. In England, if you do not self-isolate, you can be fined £1,000. If you do not provide an accurate contact detail declaration – or do not update your contact detail form in the limited circumstances where you need to move to another place to self-isolate – you can be fined up to £3,200.

You must complete a form before you arrive in the UK. You cannot submit the form until 48 hours before you're due to arrive in the UK. You'll need to show your completed form when you arrive at the UK border, either by printing a copy, or showing it on your phone. The government will use this information to contact you if you or someone you've travelled with develops coronavirus (COVID-19) symptoms, and to check that you're self-isolating for the first 14 days after you arrive in the UK.

Source: https://www.gov.uk/guidance/coronavirus-covid-19-travel-corridors

**Australia** (June 30, 2020): You can only travel to Australia if you are an Australian citizen, a permanent resident, an immediate family member of an Australian citizen or permanent resident or are a New Zealand citizen usually resident in Australia. All international travellers arriving in Australia regardless of nationality or point of departure must complete self-isolation for 14 days in designated facilities (e.g hotels), before they can go home. Due to the evolving nature of the pandemic, we are unable to provide information on when the quarantine requirements for travellers arriving in Australia will end. See https://covid19.homeaffairs.gov.au/coming-australia for details. For specific information on the quarantine process of each state, and domestic travel restrictions, please contact the relevant state or territory health department.

**Source:** https://covid19.homeaffairs.gov.au/travel-restrictions-0

**New Zealand** (July 3 2020): New Zealand's border is closed to most travellers and entry is strictly controlled.

*Every person* who arrives in New Zealand must be isolated from other people in New Zealand for a minimum period of 14 days. They must then test negative for COVID-19 before they can go into the community. The New Zealand government has arranged for hotels to be used for managed isolation and quarantine for people arriving in the country.

If people do not have symptoms of COVID-19 on arrival, they will be placed in a **managed isolation facility**. They may not leave their facility unless they have applied for and received an exemption from isolation from health officials. However, they can go for walks under the condition they do not have contact with other people in the community. If people do have symptoms of COVID-19 on arrival, or test positive after arrival, they will be placed in a **quarantine facility**. These people will be unable to leave their room.

All travellers who arrive in New Zealand will be tested for COVID-19 at their respective facilities. All people in managed isolation and quarantine will be provided with three meals a day, and have other basic needs met such as having prescription medicines delivered to them. There is no cost to people in these facilities for accommodation, food or associated basic needs. Friends and family members may not visit or drop off items to people staying in these facilities. Before leaving the facility, a final health check will be carried out.

Source: https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-current-situation/covid-19-border-controls/covid-19-managed-isolation-and-quarantine#arrive

**Japan** (July 1 2020): Japan for the time being does not appear to allow entry from any country. https://www.mofa.go.jp/ca/fna/page4e_001053.html

**China** (June 17 2020): From March 28, 2020, China suspended the entry of most foreign nationals, citing the temporary measure as a response to the rapid spread of COVID-19 across the world. According to the European Chamber of China, supporting measures to facilitate the return of foreign nationals to China for urgent or necessary purposes are being conducted at a

local level. In Shanghai, the Ministry of Foreign Affairs (MFA) and the Shanghai Municipality Government have issued two channels – a normal channel and a fast track channel – to facilitate the entry into China of employees essential for business operations. The fast track channel is only applied to employees of companies whose country of origin has signed a fast track agreement with China. Employees entering Shanghai following the fast track procedure will be allowed to start work within 48 hours after arrival, subject to negative COVID-19 test results. Those entering Shanghai following the normal procedure will be subject to a 14-day quarantine at a designated central facility. Various countries' embassies and chambers of commerce have been negotiating with the Chinese government to establish fast track channels. China has signed fast track agreements with Germany, France, South Korea, UK, Japan, and Singapore.
Source: https://www.china-briefing.com/news/chinas-travel-restrictions-due-to-covid-19-an-explainer/

**South Korea:** All arrivals – regardless of nationality and length of stay – are required to be tested for coronavirus and to undergo quarantine for 14 days. Those who test positive will be isolated and treated at a hospital or community treatment centre. For those not showing symptoms on arrival, Korean nationals and long term foreign visitors with an Alien Registration Card and Korean residence may self-quarantine at home. Arrivals from the USA and Europe must receive a test within three days; arrivals from elsewhere must receive a test within 14 days. All other foreign short-term travellers must quarantine at a government-designated facility for 14 days on arrival. Arrivals from the USA and Europe will be tested on entry before transferring to the quarantine facility; arrivals from elsewhere will move to the quarantine facility and be tested within 14 days. Individuals are required to pay a daily charge of around 100,000KRW (approximately £66) while in government quarantine facilities. You can find more information on Korean arrival procedures on the Government of the Republic of Korea website.

Source: https://www.gov.uk/foreign-travel-advice/south-korea/entry-requirements

**United States** (June 15 2020): **With specific exceptions, foreign nationals who have been in any of the following countries during the past 14 days may not enter the United States. (Applies to China, Iran, Brazil, EU, Ireland and UK).** For those who fall into the "exception" categories, after arriving to the United States from one of these countries, CDC ***recommends*** that travelers stay home and monitor their health for 14 days.

**The United States will temporarily limit inbound land border crossings from Canada and Mexico to "essential travel". These restrictions are temporary and went into effect on March 21, 2020. They will remain in effect through 11:59 pm on July 21, 2020. This decision has been coordinated with the Governments of Mexico and Canada.** This action does **not** apply to air, rail, or sea travel at this time, but does apply to commuter rail and ferry travel.

Sources: https://www.cdc.gov/coronavirus/2019-ncov/travelers/from-other-countries.html and https://mx.usembassy.gov/travel-restrictions-fact-sheet/