ENVIRONMENTAL SCAN

09/16/2020

Community-Based Public Health Measures for COVID-19 Resurgence

Key Findings

- While certain jurisdictions have responded to a resurgence in cases with public health measures targeted at local epidemiological transmission patterns (e.g. closure of nightclubs), others have developed comprehensive re-escalation plans with staged levels of restrictions informed by key epidemiological markers that outline requirements across community settings. Jurisdictions with such “re-escalation” plans include the Canadian provinces of New Brunswick and Manitoba, the state of Illinois in the United States (US), Czech Republic, Israel, and New Zealand.

- The most restrictive measures observed are re-implementation of sub-national “lockdowns”. These are applied as a mitigation strategy in jurisdictions where a second rise in cases is attributed to multiple clusters of community transmission and a lack of epidemiological linkage between cases. Sub-national lockdowns have also been applied in contexts where community transmission is low in absolute numbers, but the desired goal is elimination, rather than mitigation (e.g. New Zealand).

- The most commonly applied public health measures to mitigate a rise in cases include restrictions on social gatherings (exact numbers vary widely), as well as restrictions on restaurants and bars (number of patrons, time of closure). The closure of nightclubs was also frequently observed, as was the adoption of face masks on public transportation.

Objectives and Scope

This document summarizes information from an environmental scan on the re-implementation of community-based public health measures amidst a second rise in COVID-19 cases. Public health measures in community settings enacted at the local, sub-national or national level in response to a second rise in COVID-19 cases are described, and COVID-19 pandemic contextual factors prompting public health action are provided. Where available, epidemiological triggers for re-escalation were included. This scan captures the experience of member jurisdictions of the Organisation for Economic Co-operation and Development (OECD), potentially relevant to Ontario.

Current State and Ontario Context

The province of Ontario entered stage 1 of its phased re-opening plan on May 19, 2020, easing the strict public health measures put in place in mid-March, 2020. As of August 12, 2020, all regions in Ontario have been in the third and final stage of re-opening. Mid-September will mark nearly four months since the end of Ontario’s province-wide period of the most restrictive public health measures. At the time of
this report, the weekly rate was 4.9 per 100 000 population, down from the rate of roughly 30 per 100,000 seen at the peak of the pandemic. A small but steady increase in daily reported cases caused government officials to announce a four week pause in the province’s re-opening plans on September 8, 2020. With the risk of seasonal influenza and changing landscape as children return to school and childcare settings, information from other jurisdictions can inform resurgence planning.

Methods

- Jurisdictions of interest were OECD member states which re-implemented public health measures in community settings in response to a resurgence of COVID-19, following an earlier stage of restrictive public health measures and corresponding decrease in cases.
- Information specialists from Library Services developed and executed three formal search strategies. The detailed search strategy is available in the Appendix.
  i. Peer-reviewed journal articles were extracted from MEDLINE.
  ii. Pre-print scientific articles were extracted from the United States National Library of Medicine and MedArchives pre-print databases.
  iii. Custom grey literature searches were deployed on August 28, 2020 to search documents produced by the National Collaborating Centres for Methods and Tools (NCCMT) and Canadian Health Department Agencies (CHDA).
- The formal literature search was supplemented by a targeted grey literature search consisting of the following steps:
  - Identification of OECD countries with a resurgence of cases, defined loosely as a relative increase in weekly cases nearing 200% or more following the initial rapid increase and subsequent sustained (over several weeks) decrease in cases marking the first wave of the pandemic in those jurisdictions. Countries that did not achieve a percent test positivity of 5% or less since the start of the pandemic were excluded. These numbers were obtained from the European Centre for Disease Control (ECDC) up to and including August 15, 2020. The US and Canada were excluded from this first step (see ii.).
  - For Canada and the US, the search targeted provinces and states. Epidemiological data from the Public Health Agency of Canada and the Johns Hopkins Coronavirus Resource Center were used to identify Canadian provinces and US states, respectively, with an initial peak, subsequent sustained decrease, and second rise in cases. ECDC data was not available for North American states and provinces.
  - A search for press releases describing a rise in cases and accompanying public health response was performed on government websites for jurisdictions identified in steps i. and ii.
  - Three reviewers individually screened and abstracted sets of articles.

Results

Search results

Findings from the peer-reviewed and pre-print literature were limited. Most relevant studies pertained to modelling, and a formal review of such studies was out of scope for this document. Of the 676 peer-reviewed reports identified in MEDLINE, only two were retained. Of 353 pre-print articles, none were found to meet inclusion criteria. No relevant documents were identified through NCCMT. Re-escalation frameworks for the provinces of New Brunswick and Manitoba were identified through the CHDA grey
literature search, though these were not explicitly in scope. New Brunswick’s COVID-19 Fall Pandemic Response and Preparedness Plan 2020 is a detailed road-map outlining four alert levels and accompanying public health measures. Specific triggers for re-escalation are also described in the areas of epidemiology, health system capacity, and public system capacity. Manitoba’s framework is described below, as Manitoba was one of jurisdictions meeting inclusion criteria for the scan.

Excluding the US and Canada, 23 of all 37 OECD countries were identified as having experienced a second rise in cases as per criteria used for the informal grey literature search. Five were left out from the outset given their small size and limited relevance to a more populous jurisdiction like Ontario (Iceland, which has a population of 364,000, was included as an exception). Government websites were searched for 20 of these countries. Relevant documentation was found for seventeen countries; Austria, Greece and Slovakia were excluded based on language. One additional sub-national jurisdiction (city of Leicestershire, England) was identified through the formal peer review search and is also included below.

The Canadian provinces of British Columbia (BC) and Manitoba, and the US states of Pennsylvania and Illinois also met inclusion criteria. Therefore, a total of 21 jurisdictions were included in this scan.

Summary of findings

The public health responses to resurgence varied significantly by jurisdiction. Broadly, responses fall into four categories. A high-level summary of public health responses by scope of intervention is provided in the Appendix.

1. Stay-at-home measures or lockdowns were re-implemented in three jurisdictions. Lockdowns include layers of strict public health measures which have involved mandating the closure of most non-essential businesses and schools, as well as restrictions on personal freedoms in the form of a stay-at-home order or curfews. In Australia and New Zealand, restrictive stay-at-home/lockdown measures were applied to large metropolitan areas. Similarly, a city-wide lockdown was re-imposed in the English city of Leicestershire.

2. Most jurisdictions responded with a combination of targeted measures.

- The most commonly re-implemented measures were restrictions on social gatherings, which were observed in 11 of the 17 jurisdictions included in the scan (excluding the three jurisdictions that re-imposed lockdowns). For most jurisdictions, both informal and formal gatherings were encompassed in the orders, and all specified different requirements for indoor and outdoor gatherings.
- Restrictions on restaurants and bars were the second most common response to a rise in cases, encountered in 10 of 17 jurisdictions. In nine jurisdictions, the measures applied to bars were the same as those applied to restaurants. Only in South Korea was a restriction imposed on bars exclusive of restaurants. Most restrictions involved limits on capacity, the number of individuals per table, and the use of face coverings. In several jurisdictions, including BC, restrictions on hours of operation were also mandated.
- The third most common setting of intervention was outdoor public space. Most mandated the use of facial coverings. Other measures included restrictions on smoking (Spain) and schedule restrictions to reduce crowding (e.g. closure of beaches on weekends in Israel).
Fifteen of all 20 jurisdictions surveyed implemented two or more public health measures in response to a rise in cases. Restrictions on social gatherings were accompanied by restrictions on restaurants and bars in 9 of 11 jurisdictions. Of note, these new measures were mostly re-implemented on a background of existing public health measures put in place as part of a phased re-opening. The stage of re-opening and easing of restrictions associated with a given stage varied widely between jurisdictions.

In all four jurisdictions for which a single public health measure was found to be re-implemented, the new measure mandated the use of facial coverings either on public transportation (Switzerland, Denmark, and Norway) or in indoor occupational settings, including in shared office spaces (France). Of note, South Korea had two distinct rises in cases. The rise observed in May was entirely attributable to nightclubs, and the response at that time consisted of a single measure to close nightclubs.

3. In some instances, the targeted public health measures described above accompanied decisions to further delay easing of restrictions associated in the context of a phased re-opening. Denmark and Ireland are cases in point.

4. Japan was the only jurisdiction in which government authorities acknowledged an increase in cases but did not mandate additional – or extend existing – setting-specific public health measures, but instead focused on enhancing case and contact management capacity.

Cited epidemiologic rationale for the re-implementation of public health measures included:

- Doubling in weekly case rates
- Increase in $R_{\text{effective}}$ greater than 1
- Significant (relative) rise in the number of clusters
- Increase in percent positivity of laboratory tests
- Increase in COVID-19 related hospitalizations
- Increase in COVID-19 related deaths

For the Canadian province of Manitoba, the US state of Illinois, the Czech Republic, and Israel, triggers for moving from one alert level with specific public health measures to another were found and are detailed in Table 1.

Table 1. Epidemiological Triggers for Re-implementation of Measures (select jurisdictions)

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Epidemiological triggers</th>
</tr>
</thead>
</table>
| Czech Republic6   | • Cumulative number of newly diagnosed patients with COVID-19 in the given area in the past 7 days exceeding 25/100,000 inhabitants  
                  | • Average daily increase in the number of positive cases in the past 7 days is 50% higher compared to the average of the previous 7 days  
<pre><code>              | • 7 day increase in proportion of cases over the age of 65 exceeding 50% |
</code></pre>
<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Epidemiological triggers</th>
</tr>
</thead>
</table>
| **Illinois, United States**     | - Proportion of hospitalized COVID-19 cases exceeding 2% of active cases  

AND ONE OF THE FOLLOWING:  
- Sustained 7-day increase in hospital admissions for a COVID-19-like illness  
- Reduction in hospital capacity threatening surge capabilities (intensive care unit (ICU) capacity or medical/surgical beds under 20%)  
- Three consecutive days averaging greater than or equal to 8% positivity rate (7 day rolling) |
| **Israel**                      | - Number of new cases per week per 100 000  
- Percent positive test results  
- Growth rate in number of cases  
- Increase in test positivity rates to 2-3%  
- Rapid increase in case numbers (not defined quantitatively)  
- Additional system capacity triggers:  
  - Public health system capacity, including percent of contacts reached by public health within 24 hours of reporting time  
  - Health system capacity, including Intensive Care Unit and hospital capacity, as well as Personal Protective Equipment supply |
| **Manitoba, Canada**            | - Increase in test positivity rates to 2-3%  
- Rapid increase in case numbers (not defined quantitatively)  
- Additional system capacity triggers:  
  - Public health system capacity, including percent of contacts reached by public health within 24 hours of reporting time  
  - Health system capacity, including Intensive Care Unit and hospital capacity, as well as Personal Protective Equipment supply |

**Jurisdictional scan**

Results are organized by jurisdiction and as follows:

- COVID-19 context at the time of resurgence or spike. Where information was available, this is contrasted with the COVID-19 context at the time of re-opening for a given jurisdiction;
- Public health measures applied in response to increase in cases;
- Setting(s) targeted by public health action, where applicable; and
- Additional information, where available, including frameworks for re-escalation for select jurisdictions.

**NORTH AMERICA**

**CANADA**

**BC**

Context: The province of BC has witnessed a steady increase in case numbers since the start of July. The majority of cases have been reported in Fraser Health Authority, which is the largest in the province. The
province ended its lockdown on May 18, 2020 and moved to phase 3 of its 4 re-opening stages on June 24, 2020.\textsuperscript{10}

**Response:** The province imposed new measures applying to restaurants, bars and other food premises taking effect July 31, 2020. These included a requirement for all patrons to be seated while on-premise (even for the consumption of alcohol), a maximum table occupancy of 6, strict protocols for self-service drink stations on-premise, restrictions on the congregation of patrons in front of such premises, and a ban on karaoke, dancing, and open mic sessions on premises. For any event taking place onsite, requirements to collect contact information for every patron and a closing time no later than 11:00 PM were put in place.\textsuperscript{11} On August 7, 2020, additional restrictions on social gatherings were added, including a cap of 5 guests for any vacation rental, and a maximum cap of 50 persons for any event (reduced from 250).\textsuperscript{12}

**Setting(s) of intervention:** restaurants and bars; social gatherings.

**Manitoba**

**Context:** The province has seen a steady increase in cases since mid-July (week 29).\textsuperscript{13} Despite the increase in cases, the province eased additional restrictions by moving into stage 4 (of 4) of its re-opening plan on July 24, 2020.\textsuperscript{14} The majority of recent cases have been reported by Prairie Mountain Health, which is one of five regional health authorities in the province. The province entered staged re-opening on May 4, 2020 and moved into phase 3 on June 21, 2020.\textsuperscript{15}

**Response:** No additional public health measures have been instituted at a provincial level. Re-escalation of public health measures; however, was done at a regional level for Prairie Mountain Health on August 24, 2020 with over 235 active cases reported in the region as of August 20, 2020. Precautions include a limit on public gatherings set to 10 (both indoors and outdoors); use of face coverings in outdoor public settings shared with four or more individuals and in all indoor public settings while not seated at a distance of two or more meters from others; capacity limits on retail and personal services, restaurants, bars, recreational facilities; and closure of casinos and theatres.\textsuperscript{16} These measures are aligned with the province’s pandemic response system framework.\textsuperscript{9}

**Setting(s) of intervention:** social gatherings; outdoor public settings; restaurants and bars; entertainment venues; personal care settings.

**United States (US)**

**Illinois**

Context: The state moved to Phase 4/4 of its reopening plan on June 26, 2020, several days after reporting its lowest number of daily cases state-wide (462) since the peak of the pandemic in late April.\textsuperscript{17} Public health measures under phase 4 included the use of face coverings in all public spaces and at work, a cap on gatherings set to 50 people, and reduced capacity (50% or less) for retail stores and fitness facilities.\textsuperscript{18} The number of daily reported cases rose through July and August, reaching 2356 cases on August 22, 2020.\textsuperscript{17}

**Response:** Illinois’ response has primarily followed its resurgence mitigation plan.\textsuperscript{7} The plan specifies epidemiological triggers for re-escalation of public health measures at a regional level (the state is comprised of 11 regions total). Epidemiological triggers include a 7-day increase in cases, percent test positivity, hospital admissions, and ICU bed capacity. In addition to local measures, Illinois announced
new statewide measures on August 26, 2020. These included the mandatory use of face coverings over the nose and mouth by patrons in restaurants and bars while interacting with all staff and employees when orders are being taken and when food/beverages are being delivered. Prior to this measure being put into place, patrons were only required to wear a mask while moving about on premise (not while seated). This measure was added to phase 4 regulations for restaurants and bars, which included reduced capacity (standing areas at 25% capacity or less), seated parties of 10 or less, and tables spaced at six feet or more.¹⁹

**Setting(s) of intervention:** restaurants and bars.

**Pennsylvania**

**Context:** The state experienced its highest number of daily cases in early April, with cases exceeding 2000 per day at peak. The state was placed under lockdown on April 1⁰, 2020. Case numbers dipped to a low of approximately 330 per day in mid-June, and as of July 3⁰, the third and final phase of re-opening was announced. The uptick in cases occurred in the two weeks following entry into this last stage, with reports of cases nearing 1000 per day.²⁰ Of note, a statewide order for masks or face coverings to be worn in all indoor public spaces and in all outdoor public settings in which a distance of 2 meters or more cannot be maintained was issued on July 1⁰, 2020.²¹

**Response:** On July 16, 2020, government officials announced new measures for bars and restaurants, namely restricting capacity to 25% (from 50%) for all indoor bars and restaurants, a requirement for patrons to be seated in indoor venues, and a ban on alcohol-only sales (alcohol purchase only permitted with food consumption). In addition, closure of nightclubs was announced. Finally, the cap on social gatherings and events remained at 25 indoors and 250 for outdoors, a measure implemented in some counties of the state in early June.²²

**Setting(s) intervention:** restaurants and bars; social gatherings; entertainment venues.

**EUROPE**

**BELGIUM**

**Context:** New measures were announced shortly following a press release by Belgian authorities reporting a jump of 71% in the number of new weekly cases from July 17 to July 23⁰, relative to preceding weeks and an accompanying rise in hospital admissions (increase of 26%).²³ The increase in cases was seen across demographic groups.

**Response:** On July 29, 2020 the Prime Minister announced a set of public health measures across sectors. Social bubbles were decreased in size to five persons per household from 15 per person, previously (in Belgium, children under the age of 12 are excluded from bubble counts). Informal gatherings were capped at 10 (again, excluding children under the age of 12). Formal events adhering to public health protocols were limited to 100 indoors and 200 outdoors. Shopping restrictions were re-imposed, namely restricting entry to individual shoppers and limiting time spent in any store to a maximum of 30 minutes. Community centers and other athletic venues require sign-in with contact information.²⁴

**Setting(s) of intervention:** social gatherings; shopping venues; fitness centers.
CZECH REPUBLIC

Context: The measures were announced in the context of a rise in cases tied to several clusters observed in early to mid-July. Peak infection rates were observed in early to mid-April, 2020, and lowest infection rates were reported in late May to early June. Additional epidemiological detail was only available in Czech.

Response: On July 23, 2020, the Czech Ministry of Health announced the reintroduction of mandatory face coverings for indoor events exceeding 100 people. On July 27, 2020, caps for large indoor and outdoor gatherings were set at 500 and 1000, respectively. The obligation to use face coverings while in public spaces – put in place to address the initial surge in cases -- had been eased on May 25, 2020. An up-to-date list of measures is available here. In the wake of this announcement, the government also shared a newly developed re-escalation framework based on a four-level alert system. Each level specifies epidemiological triggers (based partly on absolute daily incidence rate and relative weekly increase) for escalation, a list of actions by public health authorities, and a list of public health measures to be implemented across the country.

Setting(s) of intervention: social gatherings.

DENMARK

Context: Danish authorities reported an increase in the number of cases in early August. The rise in national cases was attributed to local clusters throughout the country, making risk levels variable from one region to another. Denmark had moved into phase 3 of 4 of its staged re-opening on June 8, 2020.

Response: Instead of re-implementing a set of public health measures, the government decided to push back phase 4 of re-opening (planned for August) until October 31, 2020. Included in phase 4 re-opening are the re-opening of nightclubs, resumption of regular hours for bars and restaurants, and the lifting of caps on various types of gatherings, both informal and public. In what might be interpreted as a new measure implemented in the context of the rise in cases, it was announced on August 15, 2020, that facial coverings would become mandatory on all forms of public transit.

Setting(s) of intervention: transportation.

UNITED KINGDOM (LEICESTERSHIRE, EAST MIDLANDS)

Context: While no resurgence in cases was noted at a national scale at the time of this scan, a case report on Leicester City was found in a peer-reviewed journal describing a surging 7-day incidence of 135 per 100,000 and a significant rise in hospital admissions (over six-fold the rates seen in neighbouring cities) in the two last weeks of June.

Response: The city was placed into localized lock down on July 4th, 2020, with stay-at-home order, and closure of non-essential businesses and schools. In addition, further easing of public health measures set to take place nationally on July 4th (which included the re-opening of hairdressers, restaurants, and bars) was pushed back indeterminately.

Setting(s) of intervention: lockdown (sub-national).
FRANCE

Context: France exited a national lockdown into a phased re-opening on May 3rd, 2020. By mid-August, 268 clusters were under investigation, with 60 of those tied to occupational settings.

Response: Given the rise in cases nationally and the significant proportion of workplace-linked clusters, the Ministry of Labor announced on August 18, 2020 that face coverings would be made mandatory in all shared indoor workplace settings, including office spaces.35

Setting(s) of intervention: workplaces.

ICELAND

Context: Two clusters of COVID-19 infections were identified in the last week of July, with one of the two not traced to a definite source. These two clusters caused the incidence of domestic infections to rise to 7.1 per 100,000 inhabitants, prompting public health intervention.36 Rates in mid-July neared 0 per 100,000 inhabitants.37

Response: As of July 31, physical distancing (requirement to maintain two meters of more of separation at all times) was re-instated across all community settings, and masks mandated in any non-residential setting in which a distance of two meters could not be maintained. Gatherings of any kind were capped at a 100 person limit. Restrictions on opening hours for bars and restaurants were set to 11:00 PM. Screening of returning travellers was enhanced to include two rounds of PCR testing for all individuals entering Iceland for a period of 10 days or more.36 Of note, as per the epidemiological curve produced by the Iceland Directory of Health, the incidence rate per 100,000 continued to climb in early August and peaked on August 8, 2020 (rate of 27 per 100,000) before trending downwards again.37

Setting(s) of intervention: social gatherings; restaurants and bars; travel; outdoor public settings.

IRELAND

Context: Government officials reported a significant rise in cases in early August, climbing from a low of 61 cases per week to 533 cases per week and a cumulative 14-day incidence of 26 per 100,000.38 This announcement was made while the country was still in phase 3 of its four phase re-opening plan.39 The move to phase 3 had been announced on June 29, 2020.

Response: The following measures were announced on August 18, 2020: small, informal indoor gatherings were capped at six individuals (from no more than three households), down from 10 individuals (from no more than four households), while outdoor gatherings and events were capped at 15 (down from 200); formal events such as weddings were capped at 50, as was maximum attendance at indoor cultural venues such as theatres, cinemas, and galleries, provided physical distancing measures are in place. In addition, restaurants and bars were required to seat no more than 6 people per table and required to close by 11:30 PM. Other measures regarding the use of face coverings, education and childcare, transport and travel remained unchanged.40

Setting(s) of intervention: social gatherings; entertainment venues; restaurants and bars.
NETHERLANDS

Context: On August 4, 2020, government officials reported a sharp increase in infections, with near doubling of weekly reported cases in a single week (from 1329 infections in week 30 to 2588 infections in week 31).41

Response: On August 6, 2020, the Prime Minister announced a requirement for restaurants and bars to operate on a reservation-only basis, collect contact information from all patrons, and for patrons to undergo screening upon entry. In addition, new restrictions on school-related gatherings were imposed (seemingly targeting post-secondary institutions), with most of these required to shift online, and if meeting in-person, a requirement that a small group (number not defined) not meet past 10:00 PM or consume alcohol.42

Setting(s) of intervention: social gatherings; restaurants and bars.

NORWAY

Context: The country reported its highest weekly case numbers in week 13 (1733 cases from March 23 to March 29, 2020). The lowest number of weekly reported cases following the peak was 53, reported in week 29 (July 13 to July 19, 2020). A doubling in weekly cases was reported between weeks 30 (94 cases) and 31 (199 cases). The announcement described below was made following week 32, in which 370 cases were reported.43

Response: Norwegian authorities announced a recommendation for the use of face coverings on public transit and for a minimum distance of one meter to be maintained between individuals on August 14, 2020.44

Setting(s) of intervention: transportation.

SPAIN

Context: At a national level, the peak of the pandemic was reached in mid-to-late March, with daily cases in excess of 10,000 and lowest post-peak transmission observed in early-to-mid June, with daily cases fluctuating between 100 and 200. An increase in cases was noted primarily in the region of Catalonia in early July, with a relative increase of over 300% relative to the month of June (from 200 cases per day to 750).45 In a press announcement, government officials attributed the majority of infections to nightlife activities, including nightclubs.46

Response: Spain’s response was initially focused on Catalonia, its most populous region with the largest number of cases, and measures subsequently diffused nationally with various levels of uptake – with some regionally-imposed measures and others mandated at a national level. As of August 24, 2020, the following measures were declared nationally. In outdoor public spaces, a ban on smoking was put in place in areas where a 2 meter distance between individuals could not be maintained – a ban on public consumption of alcohol was already in place. In indoor public spaces, restrictions on capacity (e.g. restaurants, churches, and fitness facilities capped at 50%) and hours of operations (e.g. restaurants required to close by 1:00 AM) were mandated, with additional recommendations for shopping venues to operate by appointment-only. The closure of nightclubs and cocktail bars was implemented across the country. A recommendation for individuals to avoid any interactions with individuals outside of their social bubble, and a ban on informal gatherings larger than 10. An authorization from local government authorities or public health authorities was also required for all formal events.46
Setting(s) of intervention: social gatherings; outdoor public spaces; places of worship; restaurants and bars; athletic facilities; shopping venues; entertainment venues.

SWITZERLAND

Context: On July 6th, public health authorities reported a sharp rise in cases between June 14 and June 28, with the number of weekly cases increasing from 141 during week 24 to over 350 in week 26. The $R_{\text{effective}}$ was estimated at 2.0 at the beginning of July. The rise in cases was attributed to a relaxation of public health measures announced a month prior, on June 6, 2020, which included re-opening of most indoor and outdoor public spaces, including nightclubs, wellness centres, concert venues, theatres, and a re-opening of high schools and universities, as well as an increase in the size of permissible gatherings (from 5 to 30 in public spaces, and a cap of 300 on protests). Of note, the increase in cases was observed primarily in a younger demographic, ages 20 to 39, with acquisition most often attributed to bars, nightclubs, and school or university-related events. 47

Response: The authorities announced a nation-wide requirement for use of facial coverings on public transit. 48

Setting(s) of intervention: transportation.

MIDDLE EAST

ISRAEL

Context: On July 9, 2020, the Israeli Ministry of Health reported a gradual rise in daily coronavirus cases over 6 weeks (starting in late May), with daily case numbers exceeding 1200 at the time of the announcement. 49 The country moved out of a first-wave lockdown on May 3, 2020.

Response: A range of measures was announced on July 17, 2020. A ban on indoor gatherings exceeding 10 and outdoor gatherings exceeding 20 was declared. Operations in indoor public spaces were restricted, with closure of gyms and fitness facilities (except for use by competitive athletes), and a requirement for restaurants to only provide take-out and delivery services. Many other public spaces (both indoor and outdoor) were required to close on weekends to avoid overcrowding. This order was applied to malls, stores, barbershops, beaches, open-air markets, and pools, among others. In workplace settings, sit-down dining facilities were closed, and government ministries were required to reduce on-site staffing by 50% or more. 50

Criteria: A “Traffic Light Model” for determining COVID-19 transmission risk more granularly at a local level was announced on August 30, 2020. 8 The four-level classification system assigns a level of risk to local regions based on number of new cases per week per 100 000, percent positive test results, and growth rate in number of cases. This classification is re-visited every two weeks, and determines the implementation of certain public health measures. For instance, in a “Red” area (highest level of risk), gatherings are capped at 10 and 20 for indoor and outdoor spaces, respectively. In a “Green” area, gatherings are capped at 100 and 250 for indoor and outdoor spaces, respectively. 8

Setting(s) of intervention: social gatherings; athletic facilities; restaurants and bars; workplaces; entertainment venues.
OCEANIA

AUSTRALIA (VICTORIA)

Context: The state of Victoria experienced a rise in cases from the end of June (30 cases per day, population of 6.4 million) to the end of July (nearly 700 cases reported daily). The measures were re-imposed in the context of increasingly widespread community transmission in the Melbourne Metropolitan area.

Response: The Melbourne Metropolitan area was placed under lockdown (stage 4 restrictions) on August 2, 2020, with a stay-at-home order (with curfew between 8PM and 5AM), closure of non-essential businesses, schools, community and athletic facilities (including outdoor spaces such as playgrounds), banning of gatherings (public gatherings capped at 2, including members of one’s own household), restrictions on travel in and out of the affected area, and masking in all public spaces (indoor and outdoor). Beyond metropolitan Melbourne, stage 3 restrictions applied across the state of Victoria, which also included a stay-at-home order, albeit less strict (no curfew or restricted perimeter of travel), more lenient restrictions on businesses (e.g. hair salons allowed to operate), and allowance for select ceremonies. Of note, on June 22, 2020, restrictions on social gatherings (5 indoors and 10 outdoors) and restaurant capacity (capped at 20 patrons) were put in place in the state of Victoria in response to a rise locally-acquired cases. Of the 163 reported cases between June 8th and June 21, 49% were acquired locally with no known epidemiological link (or pending investigation at the time of report).

Setting(s) of intervention: Lockdown (sub-national).

NEW ZEALAND

Context: On August 11, 2020, New Zealand reported its first case of community-acquired COVID-19 in over 100 days. The case reported no history of overseas travel, and three additional family members subsequently tested positive. The country had been in Alert Level 1 since June 8, 2020, which places no restrictions on businesses, schools, gatherings, or domestic travel.

Response: On August 12, 2020, one day after detection of the family cluster, the city of Auckland was placed under Alert Level 3 (localized lockdown), while the rest of the country moved to Alert Level 2. New Zealand has a tiered system made of four Alert Levels. Alert Level 3 is activated when multiple cases of community-transmitted disease are reported. It involves a stay-at-home order and a social bubble made of household members that can be extended to family or close friends. Educational facilities for children and teens aged 11 and over are closed. Gatherings are capped at 10 individuals – with exceptions for weddings and other traditional ceremonies. Businesses providing close personal contact must close. All public venues (e.g. theatres, libraries) must close. Under Alert Level 2, most businesses and public venues are allowed to operate with strict safety protocols. Gatherings are capped at 100.

Setting(s) of intervention: lockdown (sub-national).
**EAST ASIA**

**JAPAN**

**Context:** Japan declared a state of emergency early April, and experienced peak numbers of cases mid-April (over 600 reported cases daily). The state of emergency was lifted in late May. A second rise in cases was observed approximately one month later, in late June. Government officials attributed 70% of new cases in late June and early July to individuals in their 20s and 30s participating in Japanese nightlife. The rise in cases was also thought to be a function of improved tracing and testing protocols. The number of severe cases was reported to be still trending downward.\(^{57}\)

**Response:** On July 13, the “New Phase of COVID-19 Response in Japan” was introduced by the Japanese Subcommittee on Novel Coronavirus Disease Control. The plan did not introduce additional public health measures. Instead, it re-emphasized the role of the three Cs (avoidance of Closed spaces, Crowded spaces and Close-contact settings), and outlined a new role for technology-enhanced contact tracing as well as increased testing capacities and targeted testing strategies.\(^{57}\) Japan’s management of the pandemic has been criticized, in particular with regards to testing rates.\(^{58}\)

**Setting(s) of intervention:** N/A.

**SOUTH KOREA**

South Korea has experienced two distinct rises in cases since recovering from the peak phase of COVID-19.

- **Context:** The first rise in cases occurred in early May 2020, with a cluster of at least 246 tied to nightclubs in Seoul.\(^{59}\) Nightclubs, which had been closed nation-wide until April 30\(^{th}\), were re-opened for the Golden Week holiday of April 30 to May 5\(^{th}\) and prompted many to travel to Seoul for celebrations.

- **Response:** On May 9, 2020, South Korean authorities announced nation-wide closure of all nightclubs.\(^{59}\)

- **Setting(s) of intervention:** entertainment venues.

- **Context:** A second more widespread rise in cases was reported in August, 2020. The Seoul Metropolitan Region (SMR) started reporting 150 to 200 new cases per day as of mid-August. In parallel, large clusters associated to places of worship were being reported – with one cluster involving upwards of 450 cases thought to be the result of poor adherence to public health guidance by a number of select churches.

- **Response:** The SMR was placed under Distancing Level 2 measures on August 18\(^{th}\), 2020, which include the follow restrictions: a general ban on gatherings, with some exceptions that include exams, running of public affairs, or essential corporate activities – in which case gatherings can be allowed in consultation with local authorities but must be capped at 50 people in indoor settings or 100 people in outdoor settings; closure of indoor high risk facilities, including bars, nightclubs, and indoor gyms; limits on in-person school attendance, with classes capped at one-third capacity for elementary and middle schools, and two-thirds capacity for high schools.\(^{60}\)

- **Setting(s) of intervention:** social gatherings; bars; entertainment venues; indoor athletic facilities; schools.
Limitations and Strengths

The question explored in this review is timely and contributes to better understanding of how other jurisdictions have responded to a second rise in COVID-19 cases. Strengths of this review include an extensive search of grey literature for relevant records and a formal search strategy of peer-reviewed literature, pre-print databases and select grey literature from public health organizations or health agency websites. While most of the results are from grey literature, only government websites were included in the review to avoid the potential inaccuracy of media reports.

This scan was undertaken in mid-August and only captures findings up to August 28. Jurisdictions with a more recent increase in cases may not have been captured in this scan. Similarly, jurisdictions included in the scan having experienced a more recent resurgence may have put in place additional public health measures that are also not captured in this document. Moreover, for all included jurisdictions, there was significant variability in the availability of information outlining the epidemiological context of COVID-19 resurgence, so detail on the triggers prompting public health action, in particular, are limited.

Given that most jurisdictions began experiencing a second rise in cases in July and August, it is unsurprising that peer-reviewed literature and pre-print databases produced few relevant results. While a review of modelling studies was out of scope for this environmental scan, findings from the modelling literature might provide key insights at this stage for predicting the effectiveness of various public health measures in the context of a COVID-19 resurgence.

Finally, the records included were examined by one reviewer and were not assessed for methodological quality using a quality appraisal tool. Time and capacity limits precluded deployment of the grey literature strategy on International Public Health Resources and Google Canada.

Conclusion and Next Steps

- Jurisdictions with the most comprehensive resurgence mitigation strategies have a re-escalation framework in place, that relies on the use of specific epidemiological markers defining entry and exit from given alert levels, comparable to those used in Ontario for its staged re-opening.
- Jurisdictions in which a rise in cases was attributed to specific settings or demographics generally deployed more targeted measures (e.g. closure of nightclubs). Other jurisdictions in which community transmission was more widespread frequently re-introduced more stringent caps on social gatherings, alongside other public health measures.
- Evidence regarding the effectiveness of the deployed public health measures is currently unavailable given how recently resurgence has been experienced in many jurisdictions. Modelling studies may help gauge the relative effectiveness of these measures.
- While a comprehensive review of triggers for re-escalation was not within the scope of this environmental scan, jurisdictions in which triggers for re-escalation were identified use not only absolute and relative increase in cases or estimates or $R_{\text{effective}}$, but cite additional numbers such as death rates, hospital admission rates, percent test positivity, and affected age demographics. Another key consideration is whether or not the majority of new infections are acquired locally, through community transmission, or abroad, and detected upon return from travel. For further discussion on thresholds for re-escalation of public health measures, please see this Rapid Evidence Report by the Alberta Health Services COVID-19 Scientific Advisory Group on COVID-19 models, scenarios and thresholds.61
• Beyond epidemiological triggers, health system capacity (e.g. hospital capacity) and public health system capacity (e.g. number of contacts reached within 24 hours of a case being reported) must also be considered in decision to re-implement public health measures.

• Modelling studies might also provide a better understanding of key epidemiological triggers for re-escalation. The Effective Growth Potential (ECP), for instance, provides a measure of outbreak potential and is calculated by combining the attack rate over 14 days per 100,000 inhabitants and the effective reproduction number. Classification of risk into one of three categories is then possible, with 30 = low, 70 = moderate, >100 = high.62

• While most of the surveyed jurisdictions experienced a first peak in April, moved towards re-opening in May, and experienced lowest rates of transmission in June, there was considerable variability in the numbers, growth rates and settings of transmission associated with the second rise in cases described. Therefore, effective public health intervention relies on a robust surveillance system, widespread testing availability with rapid turnaround times, and efficient case and contact management with surge capacity. For more on the management of cases and contacts as a function of public health system capacity, see the Tracing, Testing and Supported Isolation framework proposed by the Harvard Global Health Institute.63
References


Community-Based Public Health Measures for COVID-19 Resurgence


## Appendix

### Table 1. Public Health Measures for Mitigation of COVID-19 Resurgence, Sub-National lockdown (i.e. City or Region)

<table>
<thead>
<tr>
<th>Public Health Measure</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes (not limited to):</td>
<td>Melbourne, Australia</td>
</tr>
<tr>
<td>- Stay-at-home orders +/- curfew</td>
<td>Auckland, New Zealand</td>
</tr>
<tr>
<td>- Closure of non-essential businesses and services (e.g., closures of all indoor cultural, recreational and entertainment venues)</td>
<td>Leicestershire, East Midlands, England</td>
</tr>
<tr>
<td>- Closure of educational institutions</td>
<td></td>
</tr>
<tr>
<td>- Restrictions on national travel</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Lockdowns include an umbrella of strict public health measures mandating the closure of most non-essential businesses, schools, and imposing restrictions on personal freedoms in the form of a stay at home order or curfews.

### Table 2. Public Health Measures for Mitigation of COVID-19 Resurgence, Setting-Specific Public Health Measure(s) Re-Implemented

<table>
<thead>
<tr>
<th>Setting</th>
<th>Public Health Measure</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social gatherings</td>
<td>Limit number of individuals gathering indoors and outdoors, both for informal (e.g family reunion) and formal (e.g. concert) events</td>
<td>Belgium</td>
</tr>
<tr>
<td></td>
<td>Reduced size of social bubbles:</td>
<td>British Columbia, Canada</td>
</tr>
<tr>
<td></td>
<td>- Individuals (children are sometimes excluded from count)</td>
<td>Czech Republic</td>
</tr>
<tr>
<td></td>
<td>- number of households</td>
<td>Iceland</td>
</tr>
<tr>
<td></td>
<td>Curfew on gathering times</td>
<td>Ireland</td>
</tr>
<tr>
<td></td>
<td>Requirement to wear a face covering during social gatherings in public spaces</td>
<td>Israel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manitoba, Canada</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Netherlands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pennsylvania, United States</td>
</tr>
<tr>
<td></td>
<td></td>
<td>South Korea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spain</td>
</tr>
<tr>
<td>Workplace</td>
<td>All administrative functions, even in essential services, required to be completed remotely</td>
<td>Israel</td>
</tr>
<tr>
<td></td>
<td>Closure of dining rooms at places of work – takeaway service only</td>
<td>France</td>
</tr>
<tr>
<td></td>
<td>Limitations to numbers of personnel in workplace</td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td>Public Health Measure</td>
<td>Jurisdiction</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Indoor non-residential spaces – Restaurants &amp; bars</td>
<td>- Requirement to wear masks in all indoor work settings (including non-public areas)&lt;br&gt;- Limiting patron movement within restaurant, limiting maximum patrons and table occupancy, reservation only seating&lt;br&gt;- Ban on karaoke, dancing, and open mic sessions on premises&lt;br&gt;- Limiting business hours&lt;br&gt;- Face coverings must be worn until food is served&lt;br&gt;- Alcohol only to be served with food purchases&lt;br&gt;- Health questionnaire screening of all patrons and record of contact information&lt;br&gt;- Closure of all on-site dining in restaurants and bars</td>
<td>British Columbia and Manitoba, Canada&lt;br&gt;Iceland&lt;br&gt;Illinois and Pennsylvania, United States&lt;br&gt; Ireland&lt;br&gt; Israel&lt;br&gt;Netherlands&lt;br&gt; South Korea&lt;br&gt; Spain</td>
</tr>
<tr>
<td>Entertainment venues (e.g. nightclubs, theatres)</td>
<td>- Closure of nightclubs&lt;br&gt;- Capacity limits in theatres, casinos, galleries&lt;br&gt;- Closure of theatres, casinos, galleries</td>
<td>Ireland&lt;br&gt;Manitoba, Canada&lt;br&gt;Pennsylvania, United States&lt;br&gt;South Korea&lt;br&gt;Spain</td>
</tr>
<tr>
<td>Gyms, fitness studios</td>
<td>- Limiting maximum patron capacity&lt;br&gt;- Recording contact information of all patrons&lt;br&gt;- Closure for all but competitive athletes</td>
<td>Israel&lt;br&gt;South Korea&lt;br&gt;Spain</td>
</tr>
<tr>
<td>Personal service settings (including hair parlors, barbershops)</td>
<td>- Limited personal service settings can operate under stringent controls (e.g., hairdressing and barbers operate, but not tanning, tattoo parlors, etc.)&lt;br&gt;- Weekend closure</td>
<td>Israel</td>
</tr>
<tr>
<td>Grocery stores and essential businesses</td>
<td>- Only one person (with one child) allowed to enter premise for shopping&lt;br&gt;- Time spent within any store limited&lt;br&gt;- Suggested appointment-only shopping (not mandatory)</td>
<td>Belgium&lt;br&gt;Spain</td>
</tr>
<tr>
<td>Churches &amp; places of worship</td>
<td>- Ban on all in-person congregations (online worship only)&lt;br&gt;- Limiting maximum patron capacity</td>
<td>Seoul, South Korea&lt;br&gt;Spain</td>
</tr>
<tr>
<td>Setting</td>
<td>Public Health Measure</td>
<td>Jurisdiction</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Indoor public spaces – Schools</td>
<td>• Post-secondary shifted online</td>
<td>• Netherlands</td>
</tr>
<tr>
<td></td>
<td>• Limiting capacity for in-school attendance</td>
<td>• Seoul, South Korea</td>
</tr>
<tr>
<td></td>
<td>• Masking in all non-residential settings where physical distancing cannot be maintained</td>
<td>• Iceland</td>
</tr>
<tr>
<td></td>
<td>• Prohibition of smoking in all outdoor public settings where social distancing is not possible</td>
<td>• Norway</td>
</tr>
<tr>
<td></td>
<td>• Reimplementation of national physical distancing measures</td>
<td>• Spain</td>
</tr>
<tr>
<td>Outdoor public spaces – General</td>
<td>• Weekend closure</td>
<td>• Israel</td>
</tr>
<tr>
<td></td>
<td>• Masking in all non-residential settings where physical distancing cannot be maintained</td>
<td>• Iceland</td>
</tr>
<tr>
<td></td>
<td>• Prohibition of smoking in all outdoor public settings where social distancing is not possible</td>
<td>• Norway</td>
</tr>
<tr>
<td></td>
<td>• Reimplementation of national physical distancing measures</td>
<td>• Spain</td>
</tr>
<tr>
<td>Beaches, open air markets, petting zoos, tourist attractions</td>
<td>• Weekend closure</td>
<td>• Israel</td>
</tr>
<tr>
<td>Travel</td>
<td>• PCR testing of all travellers entering the country</td>
<td>• Iceland</td>
</tr>
<tr>
<td>Transportation</td>
<td>• Mandatory wearing of face coverings on public transit</td>
<td>• Denmark</td>
</tr>
<tr>
<td></td>
<td>• Recommendation to wear face covering on public transit</td>
<td>• Norway</td>
</tr>
<tr>
<td></td>
<td>• Mandatory wearing of face coverings on public transit</td>
<td>• Switzerland</td>
</tr>
</tbody>
</table>

Table 3. Public Health Measures for Mitigation of COVID-19 Resurgence, No Setting-Specific Public Health Measure(s) Re-Implemented

<table>
<thead>
<tr>
<th>Public Health Measure</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enhanced case and contact capacity, investment in human and technological resources</td>
<td>• Japan</td>
</tr>
</tbody>
</table>

Search strategies

NIH COVID-19 PORTFOLIO

National Institutes of Health Search COVID-19 portfolio

<table>
<thead>
<tr>
<th>#</th>
<th>Searches</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>( ( abstract:(&quot;2nd rise&quot; OR &quot;2nd wave&quot; OR &quot;second rise&quot; OR &quot;second wave&quot;) title:(&quot;2nd rise&quot; OR &quot;2nd wave&quot; OR &quot;second rise&quot; OR &quot;second wave&quot;). ) AND ( abstract:(measures OR restriction* OR &quot;face cover&quot;* OR &quot;lock down&quot;* OR &quot;nonpharmaceutical intervention&quot;* OR &quot;non-pharmaceutical intervention&quot;* OR &quot;physical distanc&quot;* OR &quot;public health intervention&quot;* OR &quot;shut down&quot;* OR &quot;social distanc&quot;* OR &quot;stay at home&quot; OR ban OR</td>
<td>16</td>
</tr>
</tbody>
</table>
bans OR banning OR banned OR bubbl* OR cleaning* OR closure* OR confinement OR containment OR distancing OR isolat* OR lockdown* OR mask OR masks OR masking OR masked OR policy OR policies OR quarantin* OR rule OR rules OR shutdown*) OR title:(measures OR restriction* OR "face cover*" OR "lock down*" OR "nonpharmaceutical intervention*" OR "non-pharmaceutical intervention*" OR "physical distanc*" OR "public health intervention*" OR "shut down*" OR "social distanc*" OR "stay* at home" OR ban OR bans OR banning OR banned OR bubbl* OR cleaning* OR closure* OR confinement OR containment OR distancing OR isolat* OR lockdown* OR mask OR masks OR masking OR masked OR policy OR policies OR quarantin* OR rule OR rules OR shutdown*) } AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) } OR ( ( abstract:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave") AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) OR title:(increas* OR resurg* OR surge OR surges OR surging OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(incidence OR cases OR transmission OR spread*) OR title:(incidence OR cases OR transmission OR spread*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave") AND ( abstract:(again OR "once more" OR renew* OR recur* OR june OR july OR august) OR title:(again OR "once more" OR renew* OR recur* OR june OR july OR august) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave") AND ( title:(clos* OR cancel* OR shut* OR restrict* OR limit*) OR abstract:(clos* OR cancel* OR shut* OR restrict* OR limit*) ) AND ( title:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycar* OR "day care*" OR childcare OR "child care" OR "public space*" OR "public place*" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential*" OR workplace* OR "work place*" OR "work space*" OR "public transport*" OR "public transiti** OR "public transit**" OR gathering* OR travel* OR "national movement" OR hotspot* OR "hot spot*" ) OR abstract:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycar* OR "day care*" OR childcare OR "child care" OR "public space*" OR "public place*" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential*" OR workplace* OR "work place*" OR "work space*" OR "work space*" OR "public transport*" OR "public transiti** OR gathering* OR travel* OR "national movement" OR hotspot* OR "hot spot*" ) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave") title:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave") ) AND ( abstract:(number* OR title: number* ) AND ( abstract:(people OR person* OR individual*) OR title:(people OR person* OR individual*) ) AND ( abstract:(event* OR venue* OR gathering* OR "public space*" OR "public place*" OR shop OR shops OR...
store OR stores OR restaurant* OR theater* OR theatre*) OR title:(event* OR venue* OR gathering* OR "public space*" OR "public place*" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre*) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) OR ( ( abstract:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave") title:("2nd rise" OR "2nd wave" OR "second rise" OR "second wave")) AND ( abstract:recover* OR title:recover* ) AND ( abstract:(phas* OR stag*) OR title:(phas* OR stag*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) )
OR reescalat* OR reestablish* OR reimpos* OR reinstat* OR reinstitut* OR reintroduc*
OR restart* OR resum* OR return OR revert* OR targeted OR scalable ) AND ( title:(clos*
OR cancel* OR shut* OR restrict* OR limit*) OR abstract:(clos* OR cancel* OR shut* OR restrict* OR limit*) ) AND ( title:(indoors OR inside OR "enclosed space*" OR school* OR college* OR universit* OR daycare* OR "day care*" OR childcare OR "child care*" OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential*" OR workplace* OR "work place**" OR workplace* OR "work space*" OR "public transport*" OR "public transit*" OR gathering* OR travel* OR "national movement*" OR hotspot* OR "hot spot**") OR abstract:(indoors OR inside OR "enclosed space*" OR school* OR college* OR universit* OR daycare* OR "day care*" OR childcare OR "child care*" OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential*" OR workplace* OR "work place**" OR workplace* OR "work space*" OR "public transport*" OR "public transit*" OR gathering* OR travel* OR "national movement*" OR hotspot* OR "hot spot**") ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("bring* back" OR "go* back" OR "re-adopt*" OR "re-escalat*" OR "re-establish*" OR "re-impos*" OR "re-instat*" OR "re-institut*" OR "re-introduc*" OR "re-start*" OR "return* to***" OR "scal* up" OR adjust* OR adapt* OR calibrat* OR readopt* OR reescalat* OR reestablish* OR reimpos* OR reinstat* OR reinstitut* OR reintroduc* OR restart* OR resum* OR return OR revert* OR targeted OR scalable) OR title:("bring* back" OR "go* back" OR "re-adopt*" OR "re-escalat*" OR "re-establish*" OR "re-impos*" OR "re-instat*" OR "re-institut*" OR "re-introduc*" OR "re-start*" OR "return* to***" OR "scal* up" OR adjust* OR adapt* OR calibrat* OR readopt* OR reescalat* OR reestablish* OR reimpos* OR reinstat* OR reinstitut* OR reintroduc* OR restart* OR resum* OR return OR revert* OR targeted OR scalable) ) AND ( abstract:number* OR title:number*)* AND ( abstract:(people OR person* OR individual*) OR title:(people OR person* OR individual*) ) AND ( abstract:(event* OR venue* OR gathering* OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre*) OR title:(event* OR venue* OR gathering* OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( title:("bring* back" OR "go* back" OR "re-adopt*" OR "re-escalat*" OR "re-establish*" OR "re-impos*" OR "re-instat*" OR "re-institut*" OR "re-introduc*" OR "re-start*" OR "return* to***" OR "scal* up" OR adjust* OR adapt* OR calibrat* OR readopt* OR reescalat* OR reestablish* OR reimpos* OR reinstat* OR reinstitut* OR reintroduc* OR restart* OR resum* OR return OR revert* OR targeted OR scalable) AND ( abstract:recover* OR title:recover* ) AND ( abstract:(phas* OR stag*) OR title:(phas* OR stag*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) )

( ( abstract:("back to***" OR repeat*) OR title:("back to***" OR repeat*)) ) AND ( abstract:(stage* OR phase*) OR title:(stage* OR phase*) ) AND ( abstract:(measures OR restriction* OR "face cover*" OR "lock down***" OR "nonpharmaceutical intervention*" OR "non-pharmaceutical intervention*" OR "physical distance*" OR "public health intervention*" OR "shut down***" OR "social distance*" OR "stay* at home" OR ban OR bans OR banning OR banned OR bubbl* OR cleaning* OR closure* OR confinement OR containment OR distancing OR isolat* OR lockdown* OR mask OR masks OR masking OR
masked OR policy OR policies OR quarantin* OR rule OR rules OR shutdown*) OR title:(measures OR restriction* OR "face cover*" OR "lock down*") OR "nonpharmaceutical intervention*" OR "non-pharmaceutical intervention*" OR "physical distanc*" OR "public health intervention*" OR "shutdown*") OR "social distanc*" OR "stay* at home" OR ban OR bans OR banning OR banned OR bubble* OR cleaning* OR closure* OR confinement OR containment OR distancing OR isolat* OR lockdown* OR mask OR masks OR masking OR masked OR policy OR policies OR quarantin* OR rule OR rules OR shutdown*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("back to*" OR repeat*) OR title:("back to*" OR repeat*) ) AND ( abstract:(stage* OR phase*) ) AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) OR title:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(increase OR cases OR transmission OR spread*) OR title:(increase OR cases OR transmission OR spread*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("back to*" OR repeat*) OR title:("back to*" OR repeat*) ) AND ( abstract:(stage* OR phase*) ) AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) OR title:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(again OR "once more" OR renew* OR recur* OR june OR july OR august) OR title:(again OR "once more" OR renew* OR recur* OR june OR july OR august) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("back to*" OR repeat*) OR title:("back to*" OR repeat*) ) AND ( abstract:(stage* OR phase*) ) AND ( abstract:(clo* OR cancel* OR shut* OR restrict* OR limit*) OR abstract:(clo* OR cancel* OR shut* OR restrict* OR limit*) ) ) AND ( title:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycare* OR "day care*" OR childcare OR "child care" OR "public space*" OR "public place***") OR shop OR stores OR restaurant* OR theater* OR theatre OR venue* OR entertainment OR nonessential* OR "non-essential*" OR workplace* OR "work place***" OR workplace* OR "work space***" OR "public transport***" OR "public transiti***" OR gathering* OR travel* OR "national movement" OR hotspot* OR "hot spot*" ) ) AND abstract:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycare* OR "day care" OR childcare OR "child care" OR "public space***" OR shop OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential***" OR workplace* OR "work place***" OR workplace* OR "work space***" OR "public transport***" OR "public transiti***" OR gathering* OR travel* OR "national movement" OR hotspot* OR "hot spot*" ) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("back to*" OR repeat*) OR title:("back to*" OR repeat*) ) AND ( abstract:(stage* OR phase*) ) AND ( abstract:(number* OR title:number*) AND ( abstract:(people OR person* OR individual*) OR title:(people OR person* OR individual*) ) ) AND ( abstract:(event* OR venue* OR gathering* OR "public space***" OR "public place***") OR ( abstract:(stage* OR phase*) OR title:(stage* OR phase*) ) AND ( abstract:(number* OR title:number*) AND ( abstract:(people OR person* OR individual*) OR title:(people OR person* OR individual*) ) ) AND ( abstract:(event* OR venue* OR gathering* OR "public space***" OR "public place***") OR title:(event* OR venue* OR gathering* OR "public space***" OR "public place***") OR shop OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential***" OR workplace* OR "work place***" OR workplace* OR "work space ***" OR "public transport***" OR "public transiti***" OR gathering* OR travel* OR "national movement" OR hotspot* OR "hot spot*" ) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( ( abstract:("back to*" OR repeat*) OR title:("back to*" OR repeat*) ) AND ( abstract:(stage* OR phase*) ) AND ( abstract:(number* OR title:number*) AND ( abstract:(people OR person* OR individual*) OR title:(people OR person* OR individual*) ) ) AND ( abstract:(event* OR venue* OR gathering* OR "public space***" OR "public place***") OR title:(event* OR venue* OR gathering* OR "public space***" OR "public place***") OR shop OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential***" OR workplace* OR "work place***" OR workplace* OR "work space ***" OR "public transport***" OR "public transiti***" OR gathering* OR travel* OR "national movement" OR hotspot* OR "hot spot*" ) )
stores OR restaurant* OR theater* OR theatre*) ) AND recordSource:{arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN} ) OR ( ( abstract:"back to*" OR repeat*) OR title:"back to*" OR repeat*) ) AND ( abstract:(stage* OR phase*) OR title:(stage* OR phase*) ) AND ( abstract:recover* OR title:recover*) ) AND ( abstract:(phas* OR stag*) OR title:(phas* OR stag*) ) AND recordSource:{arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN})

4

(abstract:(escalat* OR impos* OR introduc* OR establish* OR institut* OR adopt*) AND ( abstract:(again OR "once more" OR renew*) OR title:(again OR "once more" OR renew*) ) AND ( abstract:measures OR restriction* OR "face cover*" OR "lock down*" OR "nonpharmaceutical intervention*" OR "non-pharmaceutical intervention*" OR "physical distance*" OR "public health intervention*" OR "shut down*" OR "social distance*" OR "stay* at home" OR ban OR bans OR banning OR banned OR bubble* OR cleaning* OR closure* OR confinement OR containment OR distancing OR isolat* OR lockdown* OR mask OR masks OR masking OR masked OR policy OR policies OR quarantin* OR rule OR rules OR shutdown*) ) OR title:(measures OR restriction* OR "face cover*" OR "lock down*" OR "nonpharmaceutical intervention*" OR "non-pharmaceutical intervention*" OR "physical distance*" OR "public health intervention*" OR "shut down*" OR "social distance*" OR "stay* at home" OR ban OR bans OR banning OR banned OR bubble* OR cleaning* OR closure* OR confinement OR containment OR distancing OR isolat* OR lockdown* OR mask OR masks OR masking OR masked OR policy OR policies OR quarantin* OR rule OR rules OR shutdown*) ) AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) OR title:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(incidence OR cases OR transmission OR spread*) OR title:(incidence OR cases OR transmission OR spread*) ) AND recordSource:{arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN} ) OR ( title:(escalat* OR impos* OR introduc* OR establish* OR institut* OR adopt*) AND ( abstract:(again OR "once more" OR renew*) OR title:(again OR "once more" OR renew*) ) AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) OR title:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(increas* OR resurg* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) ) AND ( abstract:(again OR "once more" OR renew* OR recur* OR june OR july OR august) OR title:(again OR "once more" OR renew* OR recur* OR june OR july OR august) ) AND recordSource:{arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN} ) OR ( title:(escalat* OR impos* OR introduc* OR establish* OR institut* OR adopt*) AND ( abstract:(again OR "once more" OR renew*) OR title:(again OR "once more" OR renew*) ) AND ( abstract:(clos* OR cancel* OR shut* OR restrict* OR limit*) OR abstract:(clos* OR cancel* OR shut* OR restrict* OR limit*) ) AND ( title:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycare* OR "day care*" OR childcare OR "child care" OR "public space*" OR "public place**" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR entertainment OR nonessential* OR "non-essential*" OR workplace* OR "work place*" OR workspace* OR "work space**" OR "public transport**" OR "public transi** OR
surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) OR title:(increas* OR surge OR surges OR surging OR surged OR spike OR spikes OR spiking OR spiked OR rise OR rising OR rises OR risen) AND ( abstract:(again OR "once more" OR renew* OR recur* OR June OR july OR aug) OR title:(again OR "once more" OR renew* OR recur* OR June OR july OR aug) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) OR ( title:target* AND title:(vulnerab* OR "high* risk" OR "at risk" OR population* OR area* OR location* OR city OR cities OR outbreak* OR cluster*) AND ( title:(clos* OR cancel* OR shut* OR restrict* OR limit*) OR abstract:(clos* OR cancel* OR shut* OR restrict* OR limit*) ) AND ( title:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycare* OR "day care*" OR childcare OR "child care" OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR "work place***" OR "work space*" OR "public transport***" OR "public transit***" OR "gathering* OR "travel* OR "national movement" OR "hotspot" OR "hot spot*" OR abstract:(indoor OR inside OR "enclosed spac*" OR school* OR college* OR universit* OR daycare* OR "day care*" OR childcare OR "child care" OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre* OR venue* OR "work place***" OR "work space*" OR "public transport***" OR "public transit***" OR "gathering* OR "travel* OR "national movement" OR "hotspot" OR "hot spot*" OR "phase* OR stag*" OR abstract:(phase* OR stag*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( title:target* AND title:(vulnerab* OR "high* risk" OR "at risk" OR population* OR area* OR location* OR city OR cities OR outbreak* OR cluster*) AND ( abstract:people OR person* OR individual*) OR abstract:(people OR person* OR individual*) ) AND ( abstract:(event* OR venue* OR "gathering* OR "public space*" OR "public place***" OR shop OR shops OR store OR stores OR restaurant* OR theater* OR theatre*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) ) OR ( title:target* AND title:(vulnerab* OR "high* risk" OR "at risk" OR population* OR area* OR location* OR city OR cities OR outbreak* OR cluster*) AND ( abstract:(phas* OR stag*) ) AND recordSource:(arXiv OR medRxiv OR bioRxiv OR ChemRxiv OR "Research Square" OR SSRN) )

BIORXIV/MEDRXIV

Cold Spring Harbor Laboratory bioRxiv; Cold Spring Harbor Laboratory medRxiv

<table>
<thead>
<tr>
<th>#</th>
<th>Searches</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>for title &quot;restrictions measures containment&quot; (match any words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td>219</td>
</tr>
<tr>
<td>2</td>
<td>for title &quot;nonpharmaceutical non-pharmaceutical policy policies distancing lockdown closure closures&quot; (match any words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td>491</td>
</tr>
<tr>
<td></td>
<td>Search Query</td>
<td>Date Searched</td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>3</td>
<td>for title &quot;clean cleaning disinfect disinfecting disinfection sanitize sanitizine sanitation&quot; (match any words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>for title &quot;masks masks masked masking&quot; (match any words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>for title &quot;face covering&quot; (match phrase words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>for title &quot;face coverings&quot; (match phrase words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>for title &quot;public health&quot; (match phrase words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>for title &quot;stay at home&quot; (match phrase words) and posted between &quot;01 Jan, 2020 and 27 Aug, 2020&quot;</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 via EndNote</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>remove duplicates from 9 via EndNote</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>10 and (corona* or sars* or &quot;severe acute respiratory*) or covid* or ncov* via EndNote</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>11 and (reinstat* OR revert* OR reintroduc* OR reinstitut* OR reimpos* OR reestablish* OR reescalat* OR resum* OR restart* OR reimplement* OR re-instat* OR re-introduc* OR re-institut* OR re-imos* OR re-establish* OR re-escalat* OR restart* OR reimplement* OR readopt* OR reescalate* OR re-adopt* OR re-escalate* OR adjust* OR adapt* OR calibrat* OR targeted* OR scalab* OR surge* OR spik* OR again* OR recur* OR once more* OR second wave* OR 2nd wave* OR resurg* OR re-surg* OR put back* OR puts back* OR putting back* OR back in place* OR bring back* OR brings back* OR bringing back* OR go back* OR goes back* OR going back* OR went back* OR return to* OR returning to* OR returns to* OR returned to* OR repeat*) via EndNote</td>
<td></td>
</tr>
</tbody>
</table>

**GREY LITERATURE REPOSITORIES**


<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Retrieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>reinstat* OR revert* OR reintroduc* OR reinstitut* OR reimpos* OR reestablish* OR reescalat* OR resum* OR restart* OR reimplement* OR readopt* OR rescalab* OR surge* OR spik* OR again* OR recur* OR once more* OR second wave* OR 2nd wave* OR resurg* OR re-surg* OR put back* OR puts back* OR putting back* OR back in place* OR bring back* OR brings back* OR bringing back* OR go back* OR goes back* OR going back* OR went back* OR return to* OR returning to* OR returns to* OR returned to* OR repeat*</td>
<td></td>
<td>224</td>
</tr>
</tbody>
</table>
"put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" OR "go back" OR "goes back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat*

"second wave" OR "2nd wave" OR resurgence* OR surge* OR spike* OR outbreak*

### WEB SEARCHES (TARGETED – INDIVIDUAL WEBSITES)
Centers for Disease Control and Prevention | [https://www.cdc.gov/](https://www.cdc.gov/) (via [https://www.google.ca/](https://www.google.ca/))

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reintroduce OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate site:cdc.gov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars adjust OR adapt OR calibrate OR targeted OR scalable site:cdc.gov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;put back&quot; OR &quot;puts back&quot; OR &quot;putting back&quot; OR &quot;back in place&quot; OR &quot;bring back&quot; OR &quot;brings back&quot; OR &quot;bringing back&quot; OR &quot;brought back&quot; OR &quot;go back&quot; OR &quot;goes back&quot; OR &quot;going back&quot; OR &quot;went back&quot; OR &quot;return to&quot; OR &quot;returning to&quot; OR &quot;returns to&quot; OR &quot;returned to&quot; OR repeat site:cdc.gov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;second wave&quot; OR &quot;2nd wave&quot; OR resurgence site:cdc.gov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars surge OR spike OR outbreak &quot;again&quot; OR &quot;once more&quot; OR recur site:cdc.gov</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WEB SEARCHES (CUSTOM SEARCH ENGINES)
Search Ontario's Public Health Units | [https://cse.google.com/cse*cx=005247453031710928926:wszu8a0acm8](https://cse.google.com/cse*cx=005247453031710928926:wszu8a0acm8)

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reintroduce OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reintroduce OR reimpose OR reestablish OR reescalate OR resume OR restart</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Community-Based Public Health Measures for COVID-19 Resurgence

<table>
<thead>
<tr>
<th>Community-Based Public Health Measures for COVID-19 Resurgence</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR reimplement OR readopt OR reescalate isolation OR quarantine OR lockdown OR distancing OR &quot;social distance&quot; OR &quot;physical distance&quot; OR &quot;stay at home&quot; OR confinement OR bubble OR closure OR shutdown OR cancel OR ban</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate mask OR &quot;face covering&quot; OR &quot;face coverings&quot;</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate cleaning OR disinfection OR sanitization</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate stage OR phase</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars adjust OR adapt OR calibrate OR targeted OR scalable restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;put back&quot; OR &quot;puts back&quot; OR &quot;putting back&quot; OR &quot;back in place&quot; OR &quot;bring back&quot; OR &quot;brings back&quot; OR &quot;bringing back&quot; OR &quot;brought back&quot; restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;go back&quot; OR &quot;goes back&quot; OR &quot;going back&quot; OR &quot;went back&quot; OR &quot;return to&quot; OR &quot;returning to&quot; OR &quot;returns to&quot; OR &quot;returned to&quot; OR repeat restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;put back&quot; OR &quot;puts back&quot; OR &quot;putting back&quot; OR &quot;back in place&quot; OR &quot;bring back&quot; OR &quot;brings back&quot; OR &quot;bringing back&quot; OR &quot;brought back&quot; OR &quot;go back&quot; OR &quot;goes back&quot; OR &quot;going back&quot; OR &quot;went back&quot; OR &quot;return to&quot; OR &quot;returning to&quot; OR &quot;returns to&quot; OR &quot;returned to&quot; OR repeat stage OR phase</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;second wave&quot; OR &quot;2nd wave&quot; OR resurgence restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;second wave&quot; OR &quot;2nd wave&quot; OR resurgence isolation OR quarantine OR lockdown OR distancing OR &quot;social distance&quot; OR &quot;stay at home&quot; &quot;physical distance&quot; OR &quot;stay at home&quot; confinement OR bubble OR closure OR shutdown OR cancel OR ban</td>
</tr>
</tbody>
</table>
"physical distance" OR "stay at home" OR confinement OR bubble OR closure OR shutdown OR cancel OR ban

coronavirus OR covid OR sars "second wave" OR "2nd wave" OR resurgence
cleaning OR disinfection OR sanitization

coronavirus OR covid OR sars surge OR spike OR outbreak "again" OR "once more" OR recur
restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical
OR "public health intervention" OR "public health interventions"

Search Canadian Health Departments and Agencies | https://cse.google.com/cse*cx=54dae8807550ea08a

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinsti...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinsti...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinsti...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars adjust OR adapt OR calibrate OR targeted OR scal...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
coronavirus OR covid OR sars "put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "go back" OR "goes back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" OR "go back" OR "goes back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat stage OR phase

coronavirus OR covid OR sars "second wave" OR "2nd wave" OR resurgence restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "second wave" OR "2nd wave" OR resurgence isolation OR quarantine OR lockdown OR distancing OR "social distance" OR "physical distance" OR "stay at home" OR confinement OR bubble OR closure OR shutdown OR cancel OR ban

coronavirus OR covid OR sars "second wave" OR "2nd wave" OR resurgence cleaning OR disinfection OR sanitization

coronavirus OR covid OR sars surge OR spike OR outbreak "again" OR "once more" OR recur restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

Search U.S. State Government Websites | https://cse.google.com/cse*cx=f7f9d691627b6ed48

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate isolation OR quarantine OR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Community-Based Public Health Measures for COVID-19 Resurgence
lockdown OR distancing OR "social distance" OR "physical distance" OR "stay at home" OR confinement OR bubble OR closure OR shutdown OR cancel OR ban

coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate mask OR "face covering" OR "face coverings"

coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate cleaning OR disinfection OR sanitation

coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate stage OR phase

coronavirus OR covid OR sars adjust OR adapt OR calibrate OR targeted OR scalable restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "go back" OR "goes back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" OR "go back" OR "goes back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat stage OR phase

coronavirus OR covid OR sars "second wave" OR "2nd wave" OR resurgence restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

coronavirus OR covid OR sars "second wave" OR "2nd wave" OR resurgence isolation OR quarantine OR lockdown OR distancing OR "social distance" OR "physical distance" OR "stay at home" OR confinement OR bubble OR closure OR shutdown OR cancel OR ban
Community-Based Public Health Measures for COVID-19 Resurgence

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>coronavirus OR covid OR sars &quot;second wave&quot; OR &quot;2nd wave&quot; OR resurgence cleaning OR disinfection OR sanitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars surge OR spike OR outbreak &quot;again&quot; OR &quot;once more&quot; OR recur restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate isolation OR quarantine OR lockdown OR distancing OR &quot;social distance&quot; OR &quot;physical distance&quot; OR &quot;stay at home&quot; OR confinement OR bubble OR closure OR shutdown OR cancel OR ban</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate mask OR &quot;face covering&quot; OR &quot;face coverings&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate cleaning OR disinfection OR sanitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate stage OR phase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars adjust OR adapt OR calibrate OR targeted OR scalable restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars &quot;put back&quot; OR &quot;puts back&quot; OR &quot;putting back&quot; OR &quot;back in place&quot; OR &quot;bring back&quot; OR &quot;brings back&quot; OR &quot;bringing back&quot; OR &quot;brought back&quot; restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Search for International Public Health Resources | https://cse.google.com/cse*cx=b15f5d17bb6cc614d
WEB SEARCHES (GENERAL)

Google Canada | https://www.google.ca/

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Date Searched</th>
<th># Records Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>coronavirus OR covid OR sars reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>coronavirus OR covid OR sars surge OR spike OR outbreak &quot;again&quot; OR &quot;once more&quot; OR recur restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR &quot;public health intervention&quot; OR &quot;public health interventions&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**coronavirus OR covid OR sars** reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate mask OR "face covering" OR "face coverings"

**coronavirus OR covid OR sars** reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate cleaning OR disinfection OR sanitation

**coronavirus OR covid OR sars** reinstate OR revert OR reintroduce OR reinstitute OR reimpose OR reestablish OR reescalate OR resume OR restart OR reimplement OR readopt OR reescalate stage OR phase

**coronavirus OR covid OR sars** adjust OR adapt OR calibrate OR targeted OR scalable restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

**coronavirus OR covid OR sars** "put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

**coronavirus OR covid OR sars** "go back" OR "goes back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

**coronavirus OR covid OR sars** "put back" OR "puts back" OR "putting back" OR "back in place" OR "bring back" OR "brings back" OR "bringing back" OR "brought back" OR "go back" OR "going back" OR "went back" OR "return to" OR "returning to" OR "returns to" OR "returned to" OR repeat stage OR phase

**coronavirus OR covid OR sars** "second wave" OR "2nd wave" OR resurgence restrictions OR measures OR containment OR policy OR policies OR nonpharmaceutical OR "public health intervention" OR "public health interventions"

**coronavirus OR covid OR sars** "second wave" OR "2nd wave" OR resurgence isolation OR quarantine OR lockdown OR distancing OR "social distance" OR "physical distance" OR "stay at home" OR confinement OR bubble OR closure OR shutdown OR cancel OR ban

**coronavirus OR covid OR sars** "second wave" OR "2nd wave" OR resurgence cleaning OR disinfection OR sanitization
Citation


© Queen’s Printer for Ontario, 2020

Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario’s government, public health organizations and health care providers. PHO’s work is guided by the current best available evidence at the time of publication.

The application and use of this document is the responsibility of the user. PHO assumes no liability resulting from any such application or use.

This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to PHO. No changes and/or modifications may be made to this document without express written permission from PHO.

Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

For more information about PHO, visit publichealthontario.ca.