

COVID-19 Rapid Evidence Profile #11 (28 May 2020)

Questions

- 1) What is the evidence related to playground equipment and risk of COVID-19 transmission?
- 2) Has re-opening playgrounds had an effect on COVID-19 transmission in other jurisdictions?
- 3) What are the critical risk factors associated with playground equipment?
- 4) What mitigation strategies have been introduced in other jurisdictions to permit use of playground equipment?

What we found

We identified five highly relevant guidelines developed using robust processes that address three of the four questions (questions 1, 3 and 4). We describe the key recommendations emerging from these guidelines in the next section.

We also identified one moderately relevant full systematic review, two moderately relevant rapid reviews, and one moderately relevant guidance document developed using some type of evidence synthesis and/or expert opinion that may be helpful in addressing two of the four questions (questions 3 and 4). However, none of these additional documents pertained directly to playgrounds or playground equipment.

We did not identify any evidence documents related to question 2.

Our three jurisdictional scans (one for five other countries, a second for the 13 Canadian provinces and territories, and a third for Canada's 10 largest municipalities) provided some insights into risk factors and mitigation strategies (questions 3 and 4). We describe the key findings from our jurisdictional scan in the section following the next one.

Additional details for those who want to know more are provided in Table 1 (an overview of the type and number of documents), Table 2 (the full list of evidence documents found), Table 3 (for experiences from other countries), Table 4 (for experiences from Canadian

Box 1: Our approach

We identified research evidence addressing the question by searching [the guide to key COVID-19 evidence sources](#) on 26 and 27 May 2020.

We searched for guidelines that were developed using a robust process (e.g., GRADE), full systematic reviews (or review-derived products such as overviews of systematic reviews), rapid reviews, protocols for systematic reviews, and titles/questions for systematic reviews or rapid reviews. Single studies were only included if no relevant systematic reviews were identified.

We appraised the methodological quality of full systematic reviews and rapid reviews using AMSTAR. AMSTAR rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that: 1) the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems; and 2) quality-appraisal scores for rapid reviews are often lower because of the methodological shortcuts that need to be taken to accommodate compressed timeframes.

We identified experiences from other countries and from Canadian provinces and territories by searching jurisdiction-specific websites (e.g., government ministries and webpages dedicated to COVID-19). Our scan of experiences from other countries focused on those that we identified as being further ahead in resuming regular activities.

This rapid evidence profile was prepared in two days to inform next steps in evidence synthesis, guideline development and/or decision-making related to the question that was posed.

provinces and territories), and Table 5 (for experiences from Canadian municipalities). In addition, we provide a detailed summary of our methods in Appendix 1 and we provide hyperlinks from documents excluded at the final stage of reviewing in Appendix 2.

Lessons learned from evidence documents related to the transmission of COVID-19 from playground equipment, risk factors, and mitigation strategies

Five highly relevant guidelines developed using a robust process found that:

- [there are a number of uncertainties surrounding transmission of COVID-19 in outdoor environments, but recreational areas must be assessed for transmission risks such that the appropriate combination of measures can be adopted](#) (National Collaborating Centre for Environmental Health; last updated 17 April 2020);
- [water playgrounds should consider different strategies to encourage healthy hygiene, maintain healthy environments, maintain healthy operations, and prepare for when someone gets sick](#) (U.S. CDC; last updated 20 May 2020);
- [it is not recommended to use playgrounds, including water playgrounds, located within local, state, or national parks because they are often crowded and could easily exceed recommended guidance for gatherings, and it can be challenging to keep surfaces clean](#) (U.S. CDC; last updated 19 May 2020);
- [youth and summer camps should close shared spaces such as playgrounds with shared playground equipment \(if possible\), or otherwise stagger use and clean and disinfect between use](#) (U.S. CDC; last updated 19 May 2020); and
- [schools should assess their readiness to make safe adjustments to playtime and outdoor activities to ensure adherence to recommended measures, and adopt hygiene and environmental cleaning to limit exposure](#) (WHO technical guidance; last updated 10 May 2020).

Lessons learned from international and Canadian experiences with risk factors and mitigation strategies for the transmission of COVID-19 from playground equipment

We found limited information about risk factors, but substantial information about mitigation strategies being adopted to keep open or re-open playgrounds in other countries, Canadian provinces and territories, and Canadian municipalities.

Three of the five countries we examined – Australia, China and New Zealand – have re-opened playgrounds. We were unable to find information specific to playgrounds for the remaining two countries we examined (South Korea and Sweden). In Australia and New Zealand, the national government signalled that states and regional councils would be permitted to re-open parks and playgrounds at their discretion. In general, playgrounds have been re-opened along with some park amenities, such as public bathrooms, but outdoor pools and splash pads remain closed, with the exception of the state of Victoria, Australia. Regional councils and state governments are permitting gatherings on playgrounds of up to 10 people (including any parents watching children) and parents, guardians and children are asked to obey physical distancing measures of between 1.5 metres (Australia) and two metres (New Zealand). In New Zealand, those using playground equipment are being asked to wash or sanitize their hands before and after playing, and in many cases signage to this effect has been installed. In China, both public and paid-entry parks have been re-opened, which in many instances include playground equipment. Key regulations for those using the equipment include increased disinfecting and cleaning of equipment and washrooms, clearing garbage more regularly and having it removed in sealed bags, keeping at least one-metre distance

from others, limiting the size of gatherings in the park, and requiring staff and visitors to be wearing masks.

In Canada, playgrounds are managed by a diversity of stakeholders, including federal agencies (playgrounds managed by Parks Canada), provincial and territorial governments (playgrounds in provincial and territorial parks), municipal governments (municipal playgrounds), schools and school districts, daycare services, as well as private recreational businesses (e.g., playgrounds in camping and waterparks). We focused our jurisdictional can on both provincial and territorial governments (which operate their own playgrounds and may regulate others) and on municipal governments.

Several provinces and territories have re-opened playgrounds (B.C., Alberta, Manitoba, Yukon, Nunavut). While elementary schools and daycares gradually re-opened in Quebec (with the exception of Montreal), playgrounds remain closed until further notice. Among the provinces and territories that have re-opened playgrounds, some have emphasized the need to continue to follow key recommendations from public-health officials in terms of hand hygiene/or hand-mouth contact among children, and maintaining physical distancing by children, as well as cleaning outdoor play equipment (particularly those located in daycare settings).

Of Canada's 10 largest municipalities, only Edmonton and Winnipeg have opened playgrounds. In Edmonton, those using playgrounds are advised to bring their own hand sanitizer and water, visit a playground in the neighbourhood, maintain two metres of distance, and discourage the sharing of toys. In Winnipeg, community-service department employees have been deployed to public parks to remind residents about how to safely use the amenities while following COVID-19 health and safety regulations. Further, the city has issued warnings that playgrounds are to be used at the individual's own risk as the city is not increasing cleaning schedules.

Table 1. Overview of type of number of documents that were identified

Type of document	Total documents	Risk of COVID-19 transmission	Effect of re-opening playgrounds on transmission	Critical risk factors (and broader context risks)	Mitigation strategies
Guidelines developed using a robust process (e.g., GRADE)	5	1	0	5	4
Full systematic reviews	1	0	0	1	0
Rapid reviews	6	2	0	6	1
Guidelines developed using some type of evidence synthesis and/or expert opinion	1	0	0	0	1
Protocols for reviews that are underway	0	0	0	0	0
Titles/questions for reviews that are being planned	0	0	0	0	0
Single studies in areas where no reviews were identified	0	0	0	0	0

Table 2: Evidence documents that address the question, organized by document type and sorted by relevance to the question and COVID-19

Type of document	Relevance to question	Focus	Recency or status
Guidelines developed using a robust process (e.g., GRADE)	<ul style="list-style-type: none"> • Risk of disease transmission • Critical risk factors <ul style="list-style-type: none"> ○ Hard surface type ○ Lack of hand hygiene/or hand-mouth contact among children ○ Lack of mask wearing ○ Lack of physical distancing by children ○ Large gatherings ○ Washrooms ○ Additional park amenities (wading pools, playing fields, skateparks, tennis courts) ○ Other • Broader context risks <ul style="list-style-type: none"> ○ Large, densely populated urban centres ○ Visits to multiple play sites ○ Other • Mitigation strategies <ul style="list-style-type: none"> ○ Hard surface cleaning/sanitization ○ Hand washing before/after use of equipment ○ Wearing of a mask ○ Physical distancing requirement ○ Limits on size of gatherings ○ Special treatment of associated /nearby risks ○ Encouragement to use local playground only ○ Other 	<p><u>There are a number of uncertainties surrounding transmission of COVID-19 in outdoor environments, but recreational areas must be assessed for transmission risks such that the appropriate combination of measures can be adopted</u> (e.g., maximizing distance and minimizing interaction, closing or removing features, sanitizing surfaces, discouraging activities that involve physical contact, providing opportunities for hand hygiene, considering neighbourhood access by home address, increasing space available to encourage dispersion and non-collective activities) (National Collaborating Centre for Environmental Health)</p>	Last updated 17 April 2020

Type of document	Relevance to question	Focus	Recency or status
	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Lack of hand hygiene/or hand-mouth contact among children ○ Fountains ○ Washrooms ○ Additional park amenities (wading pools, playing fields, skateparks, tennis courts) ○ Other • Mitigation strategies <ul style="list-style-type: none"> ○ Hard surface cleaning/sanitization ○ Hand washing before/after use of equipment ○ Limits on size of gatherings ○ Special treatment of associated/nearby risks ○ Other 	<p>Water playgrounds should consider different strategies to encourage healthy hygiene, maintain healthy environments, maintain healthy operations and prepare for when someone gets sick (U.S. CDC)</p>	<p>Last updated 20 May 2020</p>
	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Lack of hand hygiene/or hand-mouth contact among children ○ Lack of physical distancing by children ○ Large gatherings 	<p>It is not recommended to use playgrounds, including water playgrounds, located within local, state, or national parks because they are often crowded and could easily exceed recommended guidance for gatherings, and it can be challenging to keep surfaces clean (U.S. CDC)</p>	<p>Last updated 19 May 2020</p>
	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Lack of hand hygiene/or hand-mouth contact among children ○ Lack of physical distancing by children ○ Day camps with many different activities • Mitigation strategies <ul style="list-style-type: none"> ○ Hard surface cleaning/sanitization ○ Other 	<p>Youth and summer camps should close shared spaces such as playgrounds with shared playground equipment (if possible), or otherwise stagger use and clean and disinfect between use (U.S. CDC)</p>	<p>Last updated 19 May 2020</p>

Type of document	Relevance to question	Focus	Recency or status
	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Lack of hand hygiene/or hand-mouth contact among children ○ Lack of physical distancing by children • Mitigation strategies <ul style="list-style-type: none"> ○ Hard surface cleaning/sanitization ○ Hand washing before/after use of equipment ○ Wearing of a mask ○ Physical distancing requirement 	Schools should assess their readiness to make safe adjustments to playtime and outdoor activities to ensure adherence to recommended measures and adopt hygiene and environmental cleaning to limit exposure (e.g., clean and disinfect frequently touched surfaces) (WHO technical guidance)	Last updated 10 May 2020
Full systematic reviews	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Hard surface type ○ Lack of hand hygiene/or hand-mouth contact among children ○ Other 	Limited evidence suggests that outdoor transmission is made possible when transferred from people's hands onto external surfaces including fences, gates and pedestrian crossing buttons	Literature last searched 8 May 2020
Rapid reviews	<ul style="list-style-type: none"> • Risk of disease transmission • Critical risk factors <ul style="list-style-type: none"> ○ Hard surface type • Mitigation strategies <ul style="list-style-type: none"> ○ Hand washing before/after use of equipment ○ Wearing of a mask ○ Physical distancing requirement ○ Limits on size of gatherings 	The risk of transmission of the SARS-CoV-2 virus by indirect contact with contaminated surfaces of urban furniture and accessories is considered to be low (Institut national de santé public du Québec)	Published 20 May 2020
	<ul style="list-style-type: none"> • Risk of disease transmission 	There is limited evidence about alternatives to full school closures such as suspending classes or grades, or making other changes to ensure student social distancing (e.g., by closing playgrounds and cancelling non-essential activities and meetings), but a small number of modelling studies were found to support the use of alternative strategies during influenza outbreaks	Literature searched October 2016
	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Hard surface type 	Although SARS-CoV-2 can survive on inanimate surfaces for hours or days, its virulence and the transmission through fomites in community settings is not clear	Literature last searched 5 May 2020

Type of document	Relevance to question	Focus	Recency or status
	<ul style="list-style-type: none"> • Critical risk factors <ul style="list-style-type: none"> ○ Hard surface type 	Limited evidence shows that SARS-CoV-2 is viable on plastic and stainless steel for up to 72 hours	Literature last searched 7 April 2020
	<ul style="list-style-type: none"> • Broader context risks <ul style="list-style-type: none"> ○ Other (transmission among and by children) 	Children do not appear to significantly contribute to transmission of COVID-19 in households or schools	Literature last searched 1 May 2020
	<ul style="list-style-type: none"> • Broader context risks <ul style="list-style-type: none"> ○ Other (transmission among and by children) 	More reliable data is needed, but emerging evidence suggests low transmissibility among and by children	Literature last searched 19 March 2020
	<ul style="list-style-type: none"> • Broader context risks <ul style="list-style-type: none"> ○ Other (transmission among and by children) 	Evidence is uncertain, but early data suggests children may not be a major vector for COVID-19 transmission	Literature last searched March 2020 (no specific date provided)
Guidelines developed using some type of evidence synthesis and/or expert opinion	<ul style="list-style-type: none"> • Mitigation strategies <ul style="list-style-type: none"> ○ Hard surface cleaning/sanitization ○ Hand washing before/after use of equipment 	In school settings, frequently touched surfaces need to be cleaned more than usual, and children should be prompted to wash their hands more often than usual	Updated 20 May 2020

Table 3: International experiences with transmission, risk factors and mitigation of COVID-19 when re-opening playground equipment

Country	Key findings
Australia	<ul style="list-style-type: none"> • The re-opening of playgrounds has been left to individual municipal councils based on their ability to abide by signage and cleaning processes. <ul style="list-style-type: none"> ○ In South Australia, the public health officer has recommended signage reinforcing social distancing of 1.5 metres from each other and gatherings of 10 children or less at any one time, as well as the ongoing hygiene precautions including the regular cleaning of play equipment with detergent-based products, especially during peak times. ○ In addition, cleaning and disinfection programs have been increased for public toilets. • As of 15 May 2020, the city of Sydney opened public playgrounds, skate parks and outdoor fitness areas (including tennis courts and parks), but basketball courts and interactive water features are temporarily closed. <ul style="list-style-type: none"> ○ Signage has been installed in these areas to ensure people comply with physical distancing measures (1.5 metres from each other) and they are encouraged to wipe exercise equipment before and after use. ○ The city of Sydney is finalizing plans to open outdoor pools in line with directions issued by the New South Wales Government (which currently allows swimming in outdoor pools but with no more than 10 people). • In Victoria, as of 31 May, public playgrounds, outdoor gyms and skateparks will remain open with the directive of not gathering in groups of more than 20 (includes parents or guardians watching the children) and must stay 1.5 meters apart from others where possible. <ul style="list-style-type: none"> ○ Outdoor pools are set to open on 22 June 2020 to a maximum of 20 patrons per swimming pool, with a limit of three persons per lane in each pool, however shower facilities remain closed. ○ Floor markings are being used in public parks to promote physical distancing, with more frequent cleaning and inspections to ensure appropriate quantities of soap are provided. • In Queensland, the roadmap to easing restrictions notes that parks, playground equipment, skate parks and outdoor gyms will be opening for gatherings of up to 10 people, with a plan to increase the limit to 20 as of 12 June.
China	<ul style="list-style-type: none"> • On 8 April 2020, China’s State Council joint prevention and control mechanism against COVID-19 issued the prevention and control technology guidelines for different populations in various places and organizations, many of which relate to parks (both public and paid-entry). These include: <ul style="list-style-type: none"> ○ cleaning and disinfecting of public toilets in the park as well as frequently contacted objects in the park, such as public facilities, seats and benches, fitness equipment, dust bins, and trash cans; ○ clearing rubbish every day and removing rubbish via sealed transportation; ○ ensuring liquid hand soap is available in public toilets for hand washing; and ○ wearing of masks by both visitors and staff of the parks. • Additional regulations for park goers include: <ul style="list-style-type: none"> ○ keeping at least a one-metre distance from others as well as limiting the size of gatherings and number of people in the park; ○ shortening the opening and closing times in medium- and high-risk areas; ○ reducing the use of cash for ticket sales in paid-entry parks and instead implementing online ticket purchases and code scanning payments; ○ screening temperature at the park entrance; and ○ setting up a bulletin board or large screen to remind visitors and staff to comply with the relevant prevention and control requirements. • Staff working at the park or playground, and management working in administrative offices located near the park or playground, must: <ul style="list-style-type: none"> ○ ensure a reserve of protective equipment including masks and disinfectant, as well as ensure emergency plans, disposal areas and training for personnel have all been implemented;

Country	Key findings
	<ul style="list-style-type: none"> ○ establish employee health monitoring whereby the health status is recorded each day and those who feel unwell are advised to seek medical treatment; ○ strengthen the ventilation in office areas, ensure the normal operation of the air conditioner and turn off the air return in ventilation systems; ○ reasonably arrange staff to adhere to the permitted number of visitors and work requirements; and ○ pay attention to hand hygiene and cover their mouth and nose with a tissue or elbow when sneezing.
New Zealand	<ul style="list-style-type: none"> ● At the height of public restrictions (e.g., alert level 3 and 4) most public venues including playgrounds and public pools were closed, though parks remained open, however people needed to maintain physical distancing outside their extended bubbles. ● On 13 May 2020, New Zealand reduced the alert level to 2, which opened public venues including playgrounds and pools so long as they were able to comply with local public health measures. ● In Auckland, playgrounds, skate parks, basketball courts and pump tracks are open, however visitors must maintain two metres of social distancing from other visitors and must wash their hands before and after using any equipment. <ul style="list-style-type: none"> ○ Signage has been installed that advises how to use the playgrounds safely and remind users about personal hygiene. ○ Public toilets in parks will be open to allow for handwashing before and after equipment use. ○ Outdoor swimming pools will remain closed until further notice. ● In Wellington, playgrounds are open, but those using equipment are asked to bring hand sanitizer and use it before and after playing. ● In Christchurch, all parks and tracks are open under alert level 2, which includes playgrounds, play equipment and exercise equipment in parks, as well as their associated public toilets. <ul style="list-style-type: none"> ○ Those using the equipment are being asked to maintain a two-metre distance from other people and to wash hands before and after using equipment
South Korea	<ul style="list-style-type: none"> ● No information specific to playgrounds was identified.
Sweden	<ul style="list-style-type: none"> ● No information specific to playgrounds was identified, however the national ban on gathering of more than 50 people applies in outdoor spaces (such as playgrounds and parks).

Table 4: Canadian provinces' and territories' experiences with transmission, risk factors and mitigation of COVID-19 when re-opening playground equipment

Province/ territory	Key findings
Pan-Canadian	<ul style="list-style-type: none"> On 1 June 2020, Parks Canada will begin a gradual re-opening of some outdoor locations in national parks, national historic sites and national marine conservation areas. However, playgrounds will remain closed until further notice.
B.C.	<ul style="list-style-type: none"> Playgrounds in provincial parks remain closed.
Alberta	<ul style="list-style-type: none"> In Alberta, playgrounds have been re-opened. The Government of Alberta has published a COVID-19 “Guidance for Playgrounds”, which provides an overview of the risks associated with using playgrounds and outlines risk mitigation strategies for individuals, municipalities and school divisions. In the guidance document, the Government of Alberta states that individuals should take precautions when visiting playgrounds, especially if children find it difficult to avoid touching their eyes, noses or mouths as these actions can further the spread of the virus to the playground equipment, other children and other families. The guidance document also states that playground users must comply with current gathering restrictions (of no more than 50 people as of May 26th) and maintain physical distancing of two metres between individuals not from the same household. Regarding individual actions and precautions that can be taken to mitigate the COVID-19 risk at playgrounds, the following is suggested: <ul style="list-style-type: none"> those who are sick or have symptoms related to COVID-19 must not use playgrounds; encourage children to avoid sharing toys or sports equipment and limit contact with individuals outside of their household or cohort family; clean and disinfect toys and sports equipment prior to and after use; practise proper hand hygiene (wash your hands frequently, refrain from touching your face with unclean hands, and carry and use hand sanitizer containing at least 60% alcohol content immediately before and after using playground equipment); consider limiting children and other members of your household to only visiting playgrounds that are close to your home to help limit the number of people your family may come into contact with; maintain physical distancing and limit congregating with other people when entering and leaving the playground and supervising children playing (e.g., paths, benches, picnic areas); and individuals should maintain physical distancing when returning to vehicles or homes. Regarding actions and precautions for municipalities and school divisions, the following is recommended: <ul style="list-style-type: none"> drinking water fountains should be shut off; ensure garbage bins with removable linings are available and increase the number of times these are checked; signage should be posted to remind users of gathering restrictions and physical distancing requirements; consider limiting access to playgrounds to those who live in the immediate neighbourhood; consider limiting capacity at playgrounds to allow for two-metre distancing; and post signs to remind users of capacity restrictions. The Government of Alberta has also published guidance for outdoor activities, which include:

Province/ territory	Key findings
	<ul style="list-style-type: none"> ○ limit outdoor gatherings to no more than 50 people; ○ stay home and away from others if exhibiting symptoms; ○ if participating in activities with people from outside your household or cohort family, maintain a physical distance of two metres at all times and refrain from sharing equipment; ○ plan your activity in advance (consider going during non-peak hours, walk along the sides of trails and other public pathways to maintain distance, wear a mask to help limit the risk of spread to others, download and use the ABTraceTogether mobile contact-tracing app); ○ practise good hand hygiene (wash your hands frequently, refrain from touching your face with unclean hands, carry and use hand sanitizer); and ○ refrain from engaging in communal meals (such as barbecues, picnics or drinks with friends and neighbours) or using communal features, such as inflatables or trampolines.
Saskatchewan	<ul style="list-style-type: none"> ● On 22 May 2020, the updated Re-Open Saskatchewan Plan indicated that outdoor recreational facilities (including municipal parks and playgrounds) would re-open during phase four of the plan (date to be determined). ● Playgrounds remained closed by municipal governments to prevent contact with equipment and commonly touched surfaces which may not be cleaned regularly.
Manitoba	<ul style="list-style-type: none"> ● On 4 May 2020, the provincial government re-opened some recreational facilities as part of Phase One of Manitoba’s economic recovery plan, including playgrounds, skate parks, golf courses, tennis courts, driving ranges, marinas, and drive-in movie theatres, and other similar recreation facilities may reopen if people maintain a distance of at least two metres. ● The plan also indicates that day camps may operate if they maintain occupancy and activity levels that allow people to maintain a physical distance of at least two metres (except for brief exchanges), but the use of shared equipment is strongly discouraged.
Ontario	<ul style="list-style-type: none"> ● Outdoor playgrounds, play structures and equipment, fitness equipment, public swimming pools, splash pads and similar outdoor water facilities will remain closed until later stages of the province's reopening plan.
Quebec	<ul style="list-style-type: none"> ● As of 13 May 2020, the use of community play structures is not recommended, because it is difficult to ensure that surfaces are regularly disinfected and that users wash their hands regularly. ● On 11 May 2020, elementary schools and daycares gradually re-opened in most regions across the province, with the exception of Montreal. Safety measures for workers and children in elementary schools and daycare services during COVID-19 emphasize that play structures may not be used.
New Brunswick	<ul style="list-style-type: none"> ● On 2 April 2020, the provincial government published the Coronavirus Guidance for Playgrounds, Parks and Trails, which stipulates that children should not be permitted to use playgrounds. The guidance indicates that: “Many children will find it hard to avoid touching their eyes, nose or mouth, even if instructed not to. This can lead to spreading the virus to equipment, to each other, and to their families.” ● As of 22 May 2020, the government announced that early learning and child-care facilities are now permitted to resume using outdoor playgrounds and equipment, if they can continue to follow the required stringent cleaning protocols. Local governments and school districts are also allowed to re-open some facilities to the public, such as playgrounds, if they can ensure they meet the requirements outlined by public-health officials.

Province/ territory	Key findings
Nova Scotia	<ul style="list-style-type: none"> As of 1 May 2020, school grounds and sports fields can re-open, but children’s playgrounds must remain closed. Nova Scotia’s Chief Medical Officer of Health explained that “playgrounds have many challenges to maintaining social distance for kids, plus have many high-touch surfaces that cannot be sanitized.”
Prince Edward Island	<ul style="list-style-type: none"> No information found at the provincial level
Newfoundlan d and Labrador	<ul style="list-style-type: none"> The province has created the COVID-19 Alert Level System which provides an overview of the steps that will be taken as they relax public-health measures. As of 27 May 2020, the province is at Level 4. The Alert Level System indicates that playground equipment in municipal parks is not to be used during levels 3, 4 and 5. Playgrounds will be able to resume at Level 2, but will still be required to continue to follow the public-health guidance for all alert levels.
Yukon	<ul style="list-style-type: none"> On 8 April 2020, Yukon’s Chief Medical Officer of Health indicated that healthy individuals may go to “local parks and playgrounds to get fresh air and play as long as they keep safely spaced from anyone who’s not in their household.”
Northwest Territories	<ul style="list-style-type: none"> The government announced the public should not visit parks and playgrounds during the pandemic. As for early learning and child-care programs, they should also avoid using public outdoor play equipment, such as parks and playgrounds. If they are used, a cleaning and sanitization schedule before and after equipment is used should be implemented. If these programs have private outdoor play spaces and equipment, these spaces can continue to be used. Cleaning and sanitizing of outdoor play equipment should occur on a regular basis, similar to the process being followed indoors.
Nunavut	<ul style="list-style-type: none"> The Nunavut government has elaborated a plan with a series of measures that generally fall into three categories: lower-risk measures, medium-risk measures and higher-risk measures. The risk level of each measure is based on the current evidence on risk and impacts of measures. The risk level of activities can change over time. The plan indicates that daycares, parks and playgrounds will re-open on 1 June 2020. These re-openings were identified as low-risk measures.

Table 5: Canadian municipalities’* experiences with transmission, risk factors and mitigation of COVID-19 when re-opening playground equipment (in descending order of size)

Municipality	Key findings
Toronto	<ul style="list-style-type: none"> • Playgrounds, play structures and equipment are currently closed by the city’s General Manager of Parks (in compliance with Ontario’s <i>Emergency Management and Civil Protection Act</i>, which is in effect until June 2, 2020). • Specific mitigation strategies are available for visiting parks, dog off-leash areas, golf courses, and tennis courts (public courts and community clubs). • BMX and skateboard parks, soccer and multi-use fields, baseball fields, outdoor basketball courts, tennis courts, platform tennis, and pickleball courts are currently open with restrictions. • General mitigation strategies on outdoor play for children include: <ul style="list-style-type: none"> ○ wash hands with soap and water for 15 seconds when returning indoors; ○ learn proper use of hand sanitizer and to avoid touching their face; ○ practise physical distancing such as keeping six feet apart, avoiding playgrounds and crowded areas, and no playdates with other families; ○ avoid touching common surfaces such as park benches; and ○ bring own toys and sports equipment, and wash them after play with hot soapy water. • Residents can receive up to a \$1,000 fine if they fail to comply with Toronto’s physical distancing by-law.
Montreal	<ul style="list-style-type: none"> • As of 27 May 2020, municipal parks are open, but playgrounds remain closed until further notice.
Vancouver	<ul style="list-style-type: none"> • Playgrounds, sports fields and municipal pools remain closed. • The Vancouver Park Board reopened tennis and pickleball courts with new guidelines that require players to: <ul style="list-style-type: none"> ○ maintain physical distancing at all times; ○ limit play to singles (with doubles play only permitted when two players are of the same household); ○ not share any equipment, mark their own equipment, and refrain from touching others’ balls; ○ only engage in casual play (no lessons or leagues); and ○ limit their time on the court if others are waiting. • Park washrooms remain open and Vancouver Coastal Health released guidelines for public showers and washrooms, which state that public showers should be cleaned and disinfected between uses, and public washrooms should be cleaned and disinfected at least twice daily, but ideally every two to four hours.
Calgary	<ul style="list-style-type: none"> • All city-operated playgrounds (equipment only) are currently closed (as of May 23, 2020). • Specific mitigation strategies are available for recreation areas that are open with restrictions, which include: dog off-leash areas, skateboard parks, play fields, disc golf, and tennis courts. • General guidelines for visiting city-operated parks include: <ul style="list-style-type: none"> ○ observe physical distancing, leaving at least two metres between individuals from different households; ○ avoid areas that are busy and go to less crowded areas; and ○ avoid touching common surfaces such as park benches, trash cans or other hard surfaces. • Wash hands with soap and water after touching surfaces.

Municipality	Key findings
Edmonton	<ul style="list-style-type: none"> • As of May 22nd, the City of Edmonton has re-opened playgrounds, skateparks, tennis, pickleball, volleyball and basketball courts, disc golf, outdoor fitness parks and athletic tracks with specific guidance for safe use. Spray Parks will remain closed. The City of Edmonton outlines that users must follow these public health guidelines in re-opened spaces: <ul style="list-style-type: none"> ○ gather in a group less than 50 people; ○ maintain two meters from others not in my household or cohort; ○ only share common equipment with my household or cohort; ○ stay home if I am experiencing symptoms (go home if I develop symptoms); ○ wash or sanitize my hands and cough/sneeze into my elbow or a tissue; and ○ disinfect equipment before and after use. • For playgrounds, fitness parks and climbing walls specifically, the City of Edmonton suggests that users can do the following mitigation actions: <ul style="list-style-type: none"> ○ bring my own hand sanitizer and water; ○ visit the one in my neighbourhood; ○ encourage children not to share toys and limit contact with others; and ○ follow all other public health guidelines. • The City of Edmonton also links the public to the COVID-19 Government of Alberta’s COVID-19 “Guidance for Playgrounds” (see Table 4).
Ottawa-Gatineau	<ul style="list-style-type: none"> • As of May 26th, the use of playground equipment and park amenities remains prohibited in the City of Ottawa. Specifically, the City prohibits the use of play structures, swings, slides, splash pads, wading pools and exercise equipment. • In compliance with provincial guidance, the City of Ottawa has opened outdoor sports facilities and multi-use fields, including; baseball diamonds, soccer fields, frisbee golf locations, tennis, platform tennis, table tennis and pickleball courts, basketball courts, BMX parks, and skate parks. <ul style="list-style-type: none"> ○ In all cases, the City states that physical distancing of at least two metres and groups of no more than five people are required. ○ To limit the spread of COVID-19 when using outdoor sport amenities, the City suggests avoiding picking up someone else’s sports equipment, washing your hands regularly and avoiding touching your face. • The City of Ottawa has also launched a Park Ambassador program, where ambassadors trained by city staff provide guidance for residents who are using some of Ottawa’s busiest parks. They provide information, answer questions and clarify any confusion about what’s permitted in city parks.
Winnipeg	<ul style="list-style-type: none"> • In compliance with the provincial Restoring Safe Services plan, the City of Winnipeg has opened all playgrounds, picnic shelters and skate parks. Residents using public parks and facilities are: <ul style="list-style-type: none"> ○ required to maintain a distance of at least two metres from non-household members, and further prohibits gatherings of more than 50 persons in outdoor spaces; and ○ advised to use playgrounds and other park facilities at their own risk as the city will not be cleaning such spaces more regularly. • On April 11, the city launched the Community Service Ambassador (CSA) program, under which Community Services Department employees were deployed to public parks and amenities to remind residents about COVID-19 health and safety regulations. • City by-law officers have additionally been placed in public spaces to give out fines (up to \$1,000) or charges of imprisonment (up to six months) for residents violating city public-health orders.
Mississauga	<ul style="list-style-type: none"> • Playgrounds and other park facilities within the City of Mississauga remain closed.

Municipality	Key findings
	<ul style="list-style-type: none"> Residents are permitted to use green spaces and trails as long as social distancing guidelines (a distance of two metres) are maintained.
Quebec City	<ul style="list-style-type: none"> As of 27 May 2020, municipal parks are open, but playgrounds remain closed until further notice.
Hamilton	<ul style="list-style-type: none"> Playgrounds, sports fields, pools and drinking fountains remain closed, but skate parks have re-opened with users required to maintain physical distancing. Tennis and pickleball courts operated by organizations on behalf of the City of Hamilton re-opened, and the city released guidelines which state that: <ul style="list-style-type: none"> a maximum of five people (two players per side and a coach) are permitted per court; doubles play is only permitted when partners are of the same household; a time buffer must be left between bookings to prevent congregations and allow for cleaning of high-touch surfaces; tables and chairs should be removed from common areas to prevent gatherings; high-touch surfaces are to be cleaned at the beginning and end of each day as well as between matches; hand sanitizer must be made readily available; sharing personal items and equipment is not permitted; clubhouse washrooms may be open if physical distancing can be maintained and there is a plan for enhanced cleaning; and a record of all players, staff and volunteers visiting a site must be kept (preferably online) to assist with outbreak investigations.

*The 10 largest municipalities in Canada were chosen in efforts to consider density as a key issue in municipal experiences with transmission, risk factors and mitigation strategies to prevent the spread of COVID-19

Waddell K, Wilson MG, Gauvin FP, Mansilla C, Moat KA, Wang Q, Voorheis P, Bhuiya AR, Ahmad A, Sharma K, Lavis JN. COVID-19 rapid evidence profile #11: What is the evidence related to playground equipment and risk of COVID-19 transmission? Hamilton: McMaster Health Forum, 28 May 2020.

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The authors declare that they have no professional or commercial interests relevant to the rapid evidence profile. The funders played no role in the identification, selection, assessment, synthesis, or presentation of the research evidence or experiences profiled in the rapid evidence profile.



>> Contact us
c/o McMaster Health Forum
1280 Main St. West, M5M 4J7
Hamilton, ON, Canada L8S 4L6
+1 905 525 9140 x 22121
rse@mcmaster.ca

>> Find and follow us
OHTnse.org
@OHTnse

Appendix 1: Methodological details

We use a standard protocol for preparing each rapid evidence profile (REP) to ensure that our approach to identifying research evidence as well as experiences from other countries and from Canadian provinces and territories are as systematic and transparent as possible in the time we were given to prepare the profile.

Identifying research evidence

For each REP, we search our continually updated [guide to key COVID-19 evidence sources](#) for:

- 1) guidelines developed using a robust process (e.g., GRADE);
- 2) full systematic reviews;
- 3) rapid reviews;
- 4) guidelines developed using some type of evidence synthesis and/or expert opinion;
- 5) protocols for reviews or rapid reviews that are underway;
- 6) titles/questions for reviews that are being planned; and
- 7) single studies (when no guidelines, systematic reviews or rapid reviews are identified).

Each source for these documents is assigned to one team member who conducts hand searches (when a source contains a smaller number of documents) or keyword searches to identify potentially relevant documents. A final inclusion assessment is performed both by the person who did the initial screening and the lead author of the rapid evidence profile, with disagreements resolved by consensus or with the input of a third reviewer on the team. The team uses a dedicated virtual channel to discuss and iteratively refine inclusion/exclusion criteria throughout the process, which provides a running list of considerations that all members can consult during the first stages of assessment.

During this process we include published, pre-print and grey literature. We do not exclude documents based on the language of a document. However, we are not able to extract key findings from documents that are written in languages other than Chinese, English, French and Spanish. We provide any documents that do not have content available in these languages in an appendix containing documents excluded at the final stages of reviewing.

Identifying experiences from other countries and from Canadian provinces and territories

For each rapid evidence profile we collectively decide on what countries to examine based on the question posed. For international jurisdictions we search relevant sources included in our continually updated guide to key COVID-19 evidence sources. These sources include government-response trackers that document national responses to the pandemic. In addition, we conduct searches of relevant government and ministry websites. In Canada, we search websites from relevant federal and provincial governments, ministries and agencies (e.g., Public Health Agency of Canada).

While we do not exclude countries based on language, where information is not available through the government-response trackers, we are unable to extract information about countries that do not use English, Chinese, French or Spanish as an official language.

Assessing relevance and quality of evidence

We assess the relevance of each included evidence document as being of high, moderate or low relevance to the question and to COVID-19. We then use a colour gradient to reflect high (darkest blue) to low (lightest blue) relevance.

Two reviewers independently appraise the methodological quality of systematic reviews and rapid reviews that are deemed to be highly relevant. Disagreements are resolved by consensus with a third reviewer if needed. AMSTAR rates overall methodological quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. High-quality reviews are those with scores of eight or higher out of a possible 11, medium-quality reviews are those with scores between four and seven, and low-quality reviews are those with scores less than four. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to health-system arrangements or to economic and social responses to COVID-19. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1):S8.

Preparing the profile

Each included document is hyperlinked to its original source to facilitate easy retrieval. For all included guidelines, systematic reviews, rapid reviews and single studies (when included), we prepare declarative headings that provide a brief summary of the key findings and act as the text in the hyperlink. Protocols and titles/questions have their titles hyperlinked given that findings are not yet available. We then draft a brief summary that highlights the total number of different types of highly relevant documents identified (organized by document), as well as their key findings, date of last search (or date last updated or published), and methodological quality.

Appendix 2: Documents excluded at the final stages of reviewing

Type of document	Focus
Guidelines developed using a robust process (e.g., GRADE)	
Full systematic reviews	What is the evidence for the importance of outdoor transmission and of indoor transmission of COVID-19 What is the evidence for transmission of COVID-19 by children
Rapid reviews	The role of children in the transmission of SARS-CoV-2 (COVID-19) Literature review about the reopening of schools and educational facilities for children younger than 18 years
Guidance developed using some type of evidence synthesis and/or expert opinion	
Protocols for reviews that are underway	Susceptibility, transmissibility and severity of COVID-19 in children and adolescents Efficacy of disinfecting inanimate surfaces against COVID-19
Titles/questions for reviews that are being planned	
Single studies in areas where no reviews were identified	