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ENVIRONMENTAL SCAN

Considerations for Returning to In-person Learning after the Winter Holidays in the Context of the Omicron variant in Ontario

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Key Findings

- The Omicron (B.1.1.529) variant has rapidly become the dominant variant in Ontario, with evidence of high transmissibility compared to previous strains. While early data suggests that Omicron results in less severe disease, there are limited data in the pediatric population and on longer-term complications (e.g. multi-system inflammatory syndrome in children [MIS-C], Long COVID). Data from other regions may not be comparable given higher baseline seroprevalence in children. Furthermore, the increased transmissibility of Omicron may lead to more pediatric hospitalizations if a small percentage of children have severe disease and there are a high number of cases. As a result, close monitoring of pediatric hospitalizations is essential, with a focus on additional community public health measures should a signal arise.

- Jurisdictions have taken different approaches to resuming school after the winter holiday; for example, in Canada, six provinces (Quebec, Nova Scotia, Newfoundland and Labrador, Prince Edward Island, British Columbia, and Manitoba) are keeping schools closed for 1-2 weeks (or indefinitely) after the winter holidays, and New Brunswick, New York and California in the United States (US), England, Ireland, Scotland and Denmark intend to return to in-person learning. Jurisdictions listed here as extending their school closures beyond the winter break, longer than originally planned due to Omicron, are doing so as part of a multi-layered approach to control Omicron case rates (e.g., in addition to other public health measures such as closing non-essential businesses).

- There are important negative impacts of school closures, and delay or closure of in-person learning requires additional considerations including childcare or virtual learning support for the children of critical workers (e.g., health care, grocery stores), and the risk of increased inequities due to unequal access to technology to support virtual learning.

- Due to the negative impacts of school closures and the inconsistent evidence for their use as a primary control measure, school closures to in-person learning are not recommended as a primary public health measure used for pandemic control. Community-based public health measures (such as indoor capacity restrictions, paid sick leave) should be used to reduce the risk of case introductions into the school and support ongoing in-person learning, with school-based mitigation measures to minimize within school transmission.

- While mitigation measures in-schools may have effectively reduced transmission with previous variants, in light of early estimates of significant increased transmissibility and decreased vaccine effectiveness with the Omicron variant, all layers of protection in schools should be optimized to minimize transmission until more information is available.

- Options to enhance school-based mitigation include prioritizing access to first, second and third dose vaccines for education staff, prioritizing vaccination for eligible students, optimizing mask use, further improvements in air ventilation and filtration, symptom screening and exclusion of ill students and staff, and increased access to and application of diagnostic and screen testing for students and education staff. Additional considerations include clear information and guidance on revisions to case and contact isolation and testing policies, with a focus on how to reduce infection transmission risk while minimizing absenteeism.

Objectives and Scope

- As Omicron cases are surging in Ontario, the government must decide on a course of action for students to return to school after the winter holidays. As of December 30, 2021, schools are scheduled to open for in-person learning on January 5, 2022. However, due to the challenging period of risk and impacts on the health care system, schools may be at risk of closure again.

- This document includes the latest evidence of Omicron severity in children, the impact of school closures, evidence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) transmission in schools, as well as a scan of other jurisdictions' approaches to resuming the school year in the context of surging Omicron case rates, and implications for practice.

Background

The education of students in elementary and secondary schools has been disrupted by the implementation of school closures as a public health measure to reduce transmission of SARS-CoV-2.[1] There is mixed evidence on the effectiveness of school closures on SARS-CoV-2 transmission.[1-3] A recent systematic review highlighted evidence from the United States (US) on state-level school closures reducing SARS-CoV-2 transmission, COVID-19 incidence and COVID-19 mortality, while one study from Japan found no significant effect of nation-wide school closures on COVID-19 incidence.[1,3] A Swedish study reported impacts of schools remaining open, with slight increases in SARS-CoV-2 infections in parents, as well as infections more likely in secondary school teachers compared to elementary school teachers.[1,3] Understanding the impact of school closures alone is difficult, due to an inability to distinguish the effects of school closures from other public health interventions, not accounting for confounders (e.g., hygiene, air pollution), and uncertainty around testing strategies (e.g. using data from regional public health testing or outcome information databases).[4-6]

The US federal government emphasized the importance of continued learning for "all students during the COVID-19 pandemic."[7] The US Centers for Disease Control and Prevention (CDC) recommended vaccination, indoor masking, screening testing, and physical distancing in lieu of school closures. While rapid antigen testing (RAT), in a test-to-stay model, was suggested as an additional consideration to decrease absenteeism amongst school students and staff, its widespread use appears to be limited, possibly related to operational challenges.[8] Further, the World Health Organization (WHO) recognized that "last year's widespread school closures, disrupting the education of millions of children and adolescents, did more harm than good, especially to children's mental and social well-being." As such, the WHO recommended keeping schools open, with appropriate prevention and response measures in place.[9] Their risk-based approach (posted in September 2020) on whether to close, partially close, or reopen schools, was based on multiple elements, balancing benefits and risks, local transmission, and the ability of local health authorities to act quickly.[10] Similarly, the European Centre for Disease Prevention and Control states that school closures should be a last resort in consideration of community spread and transmission, only enacted after other measures have been implemented.[11]

Ontario has endured the longest school closures during the COVID-19 pandemic than any other Canadian province or territory, spanning a total of 20 weeks between March 14, 2020 and May 15, 2021.[12] School closures have led to significant disruptions to education in Ontario, in addition to many health risks, including "significant physical, mental health and safety harms for students and children."[13] As such, the Ontario Science Table stated that "barring catastrophic circumstances, schools should remain open for in-person learning," recommending permanent public health measures to support ongoing operations (i.e., vaccination of all those eligible, asking students and staff to stay home while sick, proper hygiene, and effective infection, prevention, and control measures). Most recently, the role of rapid antigen test (RAT) for voluntary screen testing was suggested as another tool to reduce the COVID-19 burden in Ontario schools.[13]

On December 9, 2021 Ontario reported a pandemic high of 280 school-related COVID-19 outbreaks, 255 of which within elementary schools.[14] During the third wave, schools were closed shortly after school-linked outbreaks peaked at 264 (April 14, 2021). Between July 4 and November 6, 2021, 479 school-associated outbreaks were reported to public health; of the 1,991 cases associated with these outbreaks, 1,796 (90.2%) were in unvaccinated students or staff (though at the time of reporting, children under 12 were not yet eligible to receive the vaccine).[15]

Since the emergence of Omicron, it has quickly become the dominant variant in Ontario. Evidence of Omicron's increased transmissibility, potential immune evasion, and disease severity is emerging, but the full picture and risk are not yet clear. Until we learn more about severity and impacts on the health care system, there is a need for more public health measures.

Methods

This document was informed by key guidance and documents published by select scientific or public health organizations. In addition to these key sources, articles and reports referred by Public Health Ontario (PHO) subject matter experts, and previously published PHO documents were also used. Due to timing, a formal search of the literature was not conducted. A grey literature search was also conducted using key word searches of select government and public health or scientific organization websites. The information in this document was collected up to December 31, 2021.

Results

Ontario Epidemiological Context

- In Ontario, as of December 30, 2021, rates of COVID-19 infection in the 12 to 19 age group are 587.5 per 100,000 in the past 14 days (representing 7,811 cases), and rates of infection in the 5-11 age group are 627.1 per 100,000 (6,673 cases).[16] The hospitalization rate for the Ontario population in the same period was 1.5 per 100,000, as of December 30, 2021.[16]

- The number of Omicron cases and the percent positivity continues to increase in Ontario, including among children (5-12 years of age) and youth (12-19 years of age).[17,18]

- As of December 19, 2021, 81.1% of the Ontario population five years of age and older is fully vaccinated, and 13.1% of the Ontario population have received three doses.[19] Approximately 40% of the Ontario population 5-11 years of age have received their first dose.[20]

Pediatric Severity

The ability of Omicron to cause severe disease compared to other variants remains unclear. Early data from South Africa, the United Kingdom (UK), and Denmark suggest a decreased odds of hospitalization for Omicron cases compared to Delta cases, but this is in the overall population. Severity data have several limitations, including that use of hospital admissions as a proxy for disease severity is complicated by COVID screening at hospitals upon admission, where a patient is positive but hospitalized for an alternate reason and does not require COVID-19-related care.[17] There are little data regarding Omicron and disease severity in children:

- In Tshwane District, South Africa, 7.2% of pediatric COVID-19 cases were hospitalized during a time when Omicron was dominant, which was an unexpected rise from the first three waves. The cohort included 6,287 cases under the age of 19, who tested positive between October 31 and December 11, 2021.[21]

- Among children, despite having a lower absolute incidence, preliminary data from South Africa suggest that children have a 20% higher risk of hospital admission due to Omicron, relative to the D614-led first wave.[22] However, elsewhere, it was reported that children were 51% less likely to test positive for COVID-19 relative to adults during the Omicron period and overall, the risk of children being admitted to hospital for COVID-19 complications remains low.[23]

- Media are reporting that several US states are experiencing surges in COVID-19 cases and hospitalizations in individuals under 18 years of age.[24] The relative contributions of Delta and Omicron to the number of severe cases, and the impact of low vaccine uptake, make it challenging to understand what is driving the increase in pediatric hospitalizations in the US.

    - In New York City, high case numbers are leading to a "disturbing rise" in pediatric hospitalizations (particularly among unvaccinated).[25] There has been a five-fold increase in hospitalizations among children in New York City over the last three weeks of December.[26]

    - Half of the children being admitted to hospitals are younger than 5 and ineligible for vaccination, while 75% of those aged 12 to 17 admitted to hospitals for COVID-19 were not fully vaccinated, and 100% of those aged 5 to 11 admitted into hospitals were not fully vaccinated.[27]

- There are also early data to suggest that the Omicron variant causes mild illness in children, especially compared to the Delta variant.[28] However, it is unclear whether the milder symptoms are a result of immunity (either vaccine or previous infection).

- Some children and adolescents who get COVID-19 make a full recovery, while others develop long COVID, a condition marked by new, returning, or ongoing symptoms (e.g., brain fog, chronic fatigue).[29,30] Long COVID can affect school work, cause difficulties sleeping and walking, or lead to aches, pains, breathlessness, dizziness, and other symptoms. Long COVID symptoms range from mild to more serious (e.g., MIS-C, or other lingering physical, neurological, and mental problems). Even if Omicron is proven to cause less severe acute COVID-19 disease in children, more time will be required to determine the risk of longer-term COVID-19 complications in children who contract the Omicron variant.

Negative Impacts from School Closures

- Harms of school closures include negative mental health impacts, poorer educational outcomes, increased risk of child maltreatment, and loss of connectedness with peers.[31,32] These harms are likely to be experienced disproportionately by families subject to social inequities, and children with health conditions or special learning needs. In addition, literature indicates that school closures may contribute to an unmet need for childcare.[31]

- The Ontario COVID-19 Science Advisory Table recommends school closures only in catastrophic circumstances, not as pandemic control.[33] This is defined as when there is a clear signal of harm (morbidity and/or mortality) to children or the community at large that is directly attributable to children attending school for in-person learning despite the use of all available mitigation strategies, or when the harms associated with remote learning for students and their families are outweighed by identified health risks of in-person learning.

- PHO published an environmental scan in January 2021 that summarized considerations related to school closures as a measure to prevent COVID-19 transmission:

    - "Given the well documented harms of school closures, and the range of approaches that exist in the absence of evidence of effectiveness, clear communication to all stakeholders and to the public regarding individual school closures is needed, including the rationale and process for decision-making."[34]

Evidence of Transmission in Schools

- While transmission and outbreaks occur in schools, studies show that transmission within school is lower than (or equivalent to) levels of community transmission, when prevention measures are in place.[8] However, there is limited data in the context of Omicron and its high transmissibility.

- Outbreaks occurring in schools have led to closures. Much of the significant secondary transmission of COVID-19 infection occurs in schools where prevention strategies are either not implemented or improperly followed. For example, prior to vaccination, one school in Israel closed two weeks after reopening when two symptomatic students attended in-person learning, which led to 153 infections among students and 25 infections among staff members. Prevention strategies in this school were not adhered to (i.e., no mask requirement due to heat wave, crowded classroom, and poor ventilation).[35]

- Detection of cases in a school does not necessarily mean that transmission occurred in the school setting; most of the cases acquired in the community that are brought into school and result in limited spread when multiple layered prevention strategies are in place (Dr. Y Khan, personal communication, November 25, 2021).[36]

Options for Additional and Ongoing School-based Risk Mitigation Strategies

- Similar to the community setting, a multi-layer approach can help minimize the risk of SARS-CoV-2 transmission in schools (e.g. New Brunswick's School Winter Plans for 2022).[37] As part of a layered approach to preventing and mitigating SARS-CoV-2 in schools, measures that prevent introduction of SARS-CoV-2 into the school environment are considered the most effective measures.[33]

- The Science Advisory Table's Brief on School Operation for the 2021-2022 Academic Year in the Context of the COVID-19 Pandemic recommends permanent measures (e.g., vaccination of eligible students and those interacting with students, exclusion of students and staff when symptomatic, hand hygiene, adequate filtration and ventilation, environmental cleaning) in schools to reduce transmission of infectious diseases, as well as temporary measures (e.g., symptom and exposure screening, diagnostic testing, use of non-medical masks, physical distancing, cohorting, optimizing ventilation/filtration in classrooms, increased use of outdoor space when possible) to implement during a pandemic scenario to reduce the risk of transmission of infectious diseases in schools.[33]

- The Ontario Science Advisory Table recommended weekly rapid testing (unvaccinated or partially vaccinated) in schools and workplaces that reach a certain level of infection (new COVID-19 cases near 35 per 100,000 people per week with sustained exponential growth).[13] However, if new daily cases approach 175 per 100,000 people per week in a health unit or area, weekly testing is not frequent enough to reduce spread effectively and the frequency should increase to two to three times/week and perhaps to include those fully vaccinated to the frequent testing as well. This recommendation, however, was provided with the understanding that rapid tests were highly accurate in detecting the Delta variant, but had not yet examined their utility in detecting the Omicron variant. It also requires increased availability and equitable distribution.

Jurisdictional Approaches

In response to the emergence of Omicron and surging COVID-19 cases, jurisdictions have responded in different ways regarding the routine return to in-person learning after the December and New Year holidays in December 2021/January 2022.

Some jurisdictions have extended the holiday break to a fixed date up to roughly one-to-two weeks after the usual return date (e.g., Nova Scotia,[38] Quebec,[39] Manitoba,[40] and British Columbia in Canada,[41] Washington D.C.,[42] and Portugal).[43] In Canada, Prince Edward Island, and Newfoundland delayed the return to in-person learning indefinitely.[44,45] Some jurisdictions plan to resume in-person learning as planned (e.g., New Brunswick in Canada,[37] California and New York in the US,[46,47] Denmark,[48] England,[49] Ireland,[50] and Scotland)[51]. Please see Appendix A for further details.

Implications for Practice

Regional considerations regarding community transmission are important when assessing risk of transmission within the school.[52] If community transmission is high, and community vaccination level is low, students and staff will be more likely infectious when attending in-person learning, thereby introducing COVID-19 into the school setting. Israel is an example of a jurisdiction using a regional approach to school closures and mitigation strategies.[53]

Community Public Health Measures

Community-based public health measures will have the largest impact on number and rates of infections, as community rates have the biggest impact on schools and essential workforces.

- Given the evidence that school closures cause significant harm and that there is limited evidence of effectiveness as a primary control measure, community-based public health measures outside of primary and secondary educational institutions (such as closure of non-essential workplaces, indoor capacity restrictions, mask mandates, testing, stay-at-home orders) should be the preferred mechanisms for pandemic control from a public health perspective.[33]

- More stringent public health measures to reduce contacts and/or closures across other high-risk indoor settings are recommended as a next intervention for pandemic control to reduce morbidity, mortality and avoid further health system impairment.

- Understand the individuals and groups with higher barriers or lower vaccine confidence, and tailor effective and efficient community outreach to increase vaccine uptake in certain groups.[54]

School-based Risk Mitigation Strategies

Optimizing the measures in the section below can help mitigate risk of COVID-19 transmission associated with in-person learning, especially with Omicron's high transmissibility.[55]

VACCINATION

- Support first and second doses for education staff not yet vaccinated and 5-11 year olds.

- Prioritize third dose administration for all education staff and household members of school-aged children and youth (e.g., parents). In the setting of resource constraints, this will need to be balanced with prioritization for those at highest risk of severe outcomes.

- California and Washington D.C. have mandated vaccination for eligible school children and school staff,[42,56] which may reduce the risk of SARS-CoV-2 transmission from in-person learning. However, the effectiveness of this strategy is unclear in the setting of reduced vaccine effectiveness with Omicron and there are other ethical, equity and logistical considerations with vaccine mandates in this pediatric age group.

MASKING

- Provide clear messaging to the public (parents, students), that aligns with Public Health Agency of Canada messaging on community masking,[57] PHO's fact sheet on optimizing the use of masks against COVID-19,[58] and a recent PHO evidence brief emphasizing the importance of both mask quality and fit.[59]

- As a precaution, an equitable approach to ensuring access to well-constructed, standardized masks, provide all students with access to high quality, well-fitting medical masks (i.e., distribute routinely in sufficient quantity for daily use).

- Require Junior and Senior Kindergarten students to mask indoors.

- Minimize time periods with masks off indoors and maximize distances between unmasked students, such as during lunch times.

- Require masking during higher risk activities (e.g., singing), and require physical education activities that are indoors to be modified to tolerate masking (e.g., lower intensity).

- Consider masking during outdoor activities, if physical distancing cannot be maintained.

SCREENING AND TESTING

- Although COVID-19 is transmissible prior to symptom onset, ensure ongoing symptom screening by parents and caregivers of children attending schools and by staff, as well as exclusion of ill staff and students. Evidence to date on Omicron indicates that the most common symptoms of infection include those that are common with mild respiratory infections (e.g., rhinorrhea/nasal congestion and sore throat, in addition to symptoms such as fever, cough, fatigue, myalgia and headaches).[17] Symptom screeners utilized for schools, need to be sensitive and include the most commons symptoms, with the goal of preventing illness introduction and transmission in schools.

- Increased access to and application of school-based screening testing for students and education staff to promptly identify cases.[33]

- Positive symptom screen if any symptom of COVID-19 (i.e., one or more) is reported

    - Consider the implementation of the full symptom list, including "other symptoms" on the *Ontario Ministry of Health's COVID-19 Reference Document for Symptoms,*[54] for the Ontario COVID-19 school and child care screening tool in order to prevent individuals with mild illnesses coming to school.[60,61]

    - Consider this with access to diagnostic testing so that children are not excluded for prolonged periods each time they develop symptoms and COVID-19 cannot be excluded.

CASE AND CONTACT MANAGEMENT WITHIN SCHOOLS

- There is a need for clear and practical public health advice for students, their families and school staff, informed by the evolving evidence, epidemiology and pandemic response goals, and aligned with health and educational system capacity.

- Prioritization of equitable, timely diagnostic testing access (PCR and RAT) for education staff, students and their households, and further considerations of public health guidance for schools that leverages access to diagnostic testing to minimize COVID-19 risk and disruption to in-person learning.

- Identification of cases and high risk contacts and their exclusion from schools remains an important component to reducing transmission in schools.

- There is a need for mechanisms and monitoring of COVID-19 activity in schools, and transparent data sharing with the pubic and key education and public health stakeholders (e.g., voluntary RAT result reporting at the school level).

IMPROVING AIR QUALITY

- Where heating, ventilation, and air conditioning (HVAC) systems are available:

    - Review assessment of system specification and performance, assess progress toward standards (ventilation guidelines from ASHRAE 62.1 are cited by Ontario school guidance).[62]

    - Adjust settings, upgrades where possible to improve filtration and increase outdoor air ventilation for HVAC systems. More information is provided in *PHO's Focus On: HVAC systems in buildings and COVID-19*.[63]

- Where HVAC systems are not available:

    - Use exhaust fans where available to ventilate indoor air outdoors.

    - Regularly open windows and external doors for natural ventilation.

    - Enhance access to portable air cleaners and prioritize units where risk may be higher and there is potential for crowding (e.g., some portable classrooms), no source control (e.g., eating areas), where there is limited/no ventilation (including consideration of differences in ventilation systems between schools). Sizing, placement and maintenance are important and discussed in PHO's *Frequently Asked Questions: Use of Portable Air Cleaners and Transmission of COVID-19*.[64]

    - Promote the use of available outdoor learning environments when weather permits.

COHORTS

- Avoid indoor mixing of class cohorts where possible, particularly in elementary schools.
- No indoor in-person assemblies or staff meetings.

EXTRACURRICULAR ACTIVITIES

- Pause indoor high contact sports/high risk activities (e.g., multi-cohort choirs, wind instrument ensembles) temporarily.
- Consider a "test-to-play" approach for higher risk extracurricular activities, depending on availability of RAT and considering implementation requirements.

Equity

- Suspension of in-person learning has shown to result in inequities.[65] If this approach is used, consideration is needed to ensure access to the necessary technology to minimize inequities from remote learning, as well as ensuring that vulnerable students have access to specialized supports and services that they access through schools.

Critical Infrastructure

- The current exponential growth in COVID-19 cases means critical operations (e.g., health care, grocery stores) will struggle to remain fully staffed due to illness and/or isolation, at the same time there are expected to be surges in health care utilization.
- A suspension of in-person learning would lead to additional staffing shortages and put further strain on critical workers who are caregivers to school-age children. Consideration is needed for the childcare or virtual learning support of children of critical workers.

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Appendix A – School Guidance for Returning to In-person Learning after the December 2021 Holiday Break

United Kingdom (England)

- There are no official government reports in England on delayed school opening dates in January, after the planned holiday break. However, Education Minister Alex Burghart has reported measures would be implemented in England in the new term including testing upon return to school, increased vaccination uptake, improved classroom ventilation and enhanced hygiene.[51]
    - Education Secretary Nadhim Zahawi made a plea for retired teachers to return to work to fill staffing gaps in January. Some schools sent their students home with laptops in case schools do not resume to in-person learning.[66]
- Following the Prime Minister's announcement on December 8, 2021, the UK Government updated guidance for schools on tracing close contacts and isolation, ventilation, asymptomatic testing, mandatory certification, recommendation to work from home if you can and clinically extremely vulnerable children and adults.[67]
- All staff (primary and secondary) and secondary school students should continue to test twice weekly at home, with rapid test kits three to four days apart. Testing remains voluntary but is strongly encouraged. Secondary schools should also retain a small asymptomatic testing site on-site until further notice so they can offer testing to students who are unable to test themselves at home.[67]
- Starting December 14, 2021, individuals identified as a contact of someone with COVID-19 are strongly advised to take a rapid test every day for seven days and continue to attend their educational setting as normal, unless they have a positive test result.
- Daily testing of close contacts applies to all contacts who are: adults who have had 2 doses of an approved vaccine; all children and young people aged 5 to 18 years and 6 months regardless of vaccination status; people who are not able to get vaccinated for medical reasons; people taking part, or have taken part, in an approved clinical trial for a COVID-19 vaccine.[67]
- As of December 25, 2021, there were still no plans to close schools despite the high COVID cases; Prime Minister Boris Johnson is "absolutely determined" to send children back to school after the holidays.[49]

United Kingdom (Scotland)

- Schools in Scotland have not been told to reopen later in January 2022 and First Minister Nicola Sturgeon has said she wants schools to remain open "if at all possible".[51]

- The Scottish Government made the following changes to its school guidance on December 21, 2021:[68]

    - A strengthened approach to minimizing contacts, primarily through the reintroduction of groupings where practicable indoors. The size of groupings depends on local epidemiological circumstances and the need to minimize disruption.

    - Tightened restrictions on school visitors, including a return to parent councils and other activities being precluded from operating on the school grounds.

    - Updated guidance on the required approach to ventilation and Carbon dioxide monitoring, including clarification of some key points based on school feedback.

    - At-home twice-weekly testing for staff and secondary school students continues. Updated guidance on the processes to be followed when distributing test kits: reduced requirements for schools on keeping test kit logs to reduce burden on school staff; and a move away from written agreement to participate.

    - A strengthened approach to self-isolation for high risk or household contacts, whereby they are required to self-isolate for 10 days regardless of age, vaccination status or a negative PCR result.

    - Details relating to school staff eligibility for exemption from self-isolation under the critical worker guidance.

    - An update to guidance on school visits and trips in order to reflect the above ‘in school’ mitigations.

    - A requirement that schools and local authorities continue to provide essential in-person support for particular groups (including vulnerable children and young people) in the event of temporary school closures at a local level.

Ireland

- On December 17, 2021, the Irish Department of Education repeated that there are no plans to change or extend the regular school break over the Christmas holidays.[50]

- The Government states that rapid antigen tests are an extra measure to help protect against transmission of COVID-19. From November 29, 2021, parents/guardians whose child receives a positive ('detected') PCR COVID-19 test result must report this result to the school principal, who will notify the children in the child's pod to provide details of how they can receive a free antigen test (to be done at home with results generated in 15 minutes).

    - The children in the pod of the confirmed COVID-19 case can continue to attend school as long as they have no symptoms and they do not have a positive COVID-19 test result (antigen or PCR). If at any time, the child develops symptoms they should isolate at home and book a COVID-19 PCR test for them, regardless of the antigen test result (negative or 'not detected').[69]

- There are several measures schools in Ireland have implemented, including: staggered drop-off/pick-up, enhanced hand-washing and hygiene, mandatory face coverings for all children in grade three and above (to be reviewed February 2022), physical distance of one metre between students' desks and one meter between the teacher and students, "bubbles" in primary schools and cohorting in post-primary. Teachers in primary school must wear masks if they cannot keep a distance of two meters. In secondary schools, teachers and students are expected to wear a mask when they are unable to maintain a physical distance of two meters.[70]

Portugal

- Portugal announced the closure of schools (in addition to mandating telework) for the week of January 2 to 9, 2022, (to resume on January 10, 2022) as a containment strategy after the holidays.[43]

- On December 25, 2021, the government announced that they will reassess the epidemiological situation in Portugal on January 5, 2022, and only then will they determine if they can reopen schools on January 10, 2022.[71]

Denmark

- Students in grades 0-10 were sent home for remote online learning from December 15, 2021 until January 4, 2022 (inclusive); remote learning offered for all grades on the days that students are meant to be in schools. Closures do not apply to those with special needs or those in special schools/classes. After school care and youth centres closed for the same period; provisional care will be available for students in grades 0-4 when after school care programs would normally be open.[72]

- Denmark has "no plans to delay return to schools despite their increase in cases".[48]

Netherlands

- Netherlands extended their lockdown until January 14, 2022, and started their school holidays early (by one week) amid Omicron fears. School holidays were extended from two to three weeks, beginning on December 20. Young children showed the steepest rise in infections during the recent COVID surge in the Netherlands.[73]

- This "lockdown" also included bars, restaurants, and other public meeting places (e.g., theatres, cinemas) closing at 5:00pm.

Israel

- Students in grades 7-12 will study remotely in "red" (high-infection) communities where less than 70% of students in classes are vaccinated. Primary schools in these same communities will seek to reduce contact between students (as of December 27, 2021).[53]

United States (US) Centers for Disease Control and Prevention (CDC)

- The CDC's guidance on preventing COVID-19 in K-12 schools and Science Brief on SARS-CoV-2 transmission in K-12 schools emphasize implementing layered prevention strategies (e.g., using multiple prevention strategies together consistently) to protect students, teachers, staff, visitors, and other members of their households and support in-person learning.[8,74]

- Schools should consider levels of community transmission as they assess the risk of transmission within their school. If community transmission is high and community vaccination level is low, students and staff are more likely to come to school while infectious, and introduce SARS-CoV-2 into the schools. When layered prevention strategies are consistently and correctly used, the risk of SARS-CoV-2 transmission in the school environment is decreased.[8]

- Officials in some states are choosing remote learning after the winter break (e.g., 300 schools in Maryland, New Jersey, New Mexico, and New York are remaining closed). These regions saw increases in positivity rates, causing anxiety among school communities.[75]

- The layered prevention strategies recommended by the CDC include promoting vaccination, consistent and correct use of masks indoors regardless of vaccination status, physical distancing of at least six feet, school-based screening testing programs to promptly identify cases, and "Test-to-Stay" (TTS), improved ventilation, hand-washing and respiratory etiquette, staying home when sick and getting tested, contact tracing in combination with isolation and quarantine, and routine cleaning with disinfection under certain conditions.[8]

    - TTS allows school-associated close contacts who are not fully vaccinated to continue in-person learning during their quarantine period. Schools may consider the use of TTS to minimize the impact of quarantine and limit school absences after a SARS-CoV-2 exposure in the K-12 school setting. Contact tracing, testing and masking of school-based contacts during in-school quarantine period are integral to minimize risk of transmission.[8]

California, US

- Governor Newsom is distributing 6 million free rapid tests to K-12 public school children (1-2 tests per child). They are committed to keeping schools open for in-person instruction.[46,76]
    - There is currently a vaccination mandate for students in California.[56]
    - Other safety measures taken within K-12 schools in California include masking (required indoors, optional outdoors), physical distancing, optimized ventilation, staying home when sick and getting tested, screening testing, case reporting/contact tracing, quarantining/isolating, hand hygiene, cleaning, vaccination verification, and safe extracurricular activities (i.e. activities performed outdoors without masks, but use of masks indoors remains critical).[77]

Washington, D.C., US

- District health department will be distributing 100,000 rapid tests to schools to test children returning after the winter break. Public school classes will be cancelled for two days to allow families to pick up tests, with instruction resuming on January 5, 2022.[42]
- D.C. recently requires COVID-19 vaccination in schools for students – those eligible for a vaccine must be immunized beginning March 1, 2022 with enforcement beginning in the 2022-2023 school year.[42]

New York City, US

- As of December 28, the plan is to keep schools in New York City open, with an increase in access to rapid antigen tests for test-to-stay.[42] The state will provide schools with two million at-home test kits. They also plan to double the number of random COVID-19 tests conducted in schools (of both vaccinated and unvaccinated students).
- New York's "gold standard" approach to safely keeping schools open includes three measures, all taken to guarantee more consistency in their education and fewer disruptions:[26]
    - At-home testing kits will be distributed to a classroom if a student in the classroom tests positive.
    - All students in the affected classroom will report back to school the next day if they are asymptomatic and test negative.
    - Students will take two at-home tests over the course of seven days.

British Columbia (BC), Canada

- As of December 28, the BC Ministry of Education was still planning to continue in-person learning in the New Year, with enhanced safety measures. BC is committed to making rapid tests available for the school system, but they will not be available until mid-to-late January.[78]

- On December 29, 2021 the BC government announced that an in-person return to K-12 schools would be delayed by one week for most students.[79] Schools will be open for children of essential workers and students with special needs on January 4, 2022 but the remaining students in K-12 will return on January 10.[41]

    - The extra time is to allow for public health and education officials to assess impact of the Omicron variant and plan for enhanced safety measures at schools.

    - Schools will reinforce the importance of daily health checks, stagger start and stop times to reduce crowding, hold more events virtually, limit visitors to schools, and pause extracurricular sports tournaments.

Manitoba, Canada

- The Manitoba government announced that it will delay the return to school after winter break to January 10, 2022 in an effort to provide additional time for public health officials to assess risk of Omicron Variant. Staff will return on January 6, 2022 for professional learning and prepare for continuation of learning; students will return later on January 10, 2022.[40]

    - Childcare centres will remain open for children under the age of 12 to ensure families can continue to access needed services.

- The delayed return is also to provide more time for distribution of rapid tests to schools across the province, and to allow more time to assess the risk and look at additional options. Manitoba announced the use of rapid tests as one measure in addition to vaccination, staying home when sick, using masks, and reducing contacts.[80]

Quebec, Canada

- Primary school students will have a longer holiday, and high school students will switch to remote learning when classes are set to resume in the New Year. On December 30, 2021, Quebec announced an extension to their closures until January 17, 2022; school daycare services will remain open, prioritizing the children of healthcare workers.[81]

New Brunswick, Canada

- For use during the holidays, rapid test kits were sent home with students.[82] Students in K-6 will receive two kits, containing five tests per kit. Students in Grades 7-12 will be given one rapid test kit since they will not be out of school as long as the younger children. Students should rapid test every two to three days while on break, including on January 9, 2022, the Sunday before the planned return to school.

- New measures for schools will come into effect on January 10, 2022 when in-person learning is planned to resume. The School Winter Plan 2022 for Kindergarten to Grade 8 students and school personnel in New Brunswick public schools and COVID–19 directives for grade 9 to grade 12 students and school personnel in New Brunswick public schools for Winter 2022 outline all measures that schools must implement, depending on the three-level alert system determined Regional Public Health.[37,83]

- The measures in the School Winter Plans for 2022 for Alert Level 1 include:[37]

    - When a case is confirmed at a school, rapid testing will be expanded to include all students in K-8 and non-vaccinated Grade 9-12 students.

    - Physical distancing of two meters between other classed when indoors, but not outdoors.

    - Class groupings will be used for students in K-8.

    - Masks will be required indoors at all times, and will also be required outdoors (with exceptions for K-8 students who are within their grouping while outdoors), and may be removed while seated for eating and drinking.

    - Limited singing and limited use of wind instruments.

    - Limited visitors; visitors must provide proof of vaccination before entering the school building, will require an appointment before entering, and require a mask. Visitors must also maintain a physical distancing of two metres from students at all time. If Alert Level 2 or 3, visitors are not permitted in the school building.

    - Assemblies are permitted, if other public health measures are followed; but for Alert Level 2 or 3, assemblies must be virtual only.

- For Alert Levels 1, 2 and 3, all students are learning at the school, except in alert level 3 if they are otherwise directed by Public Health.

Newfoundland, Canada

- Students are being dismissed for their winter break two days early in an effort to combat a rise in cases.[84] As of December 29, 2021 (10:30am local time), it was decided that schools will go online, starting January 4, 2022 with reassessment happening on a week-to-week basis.[44]

Prince Edward Island, Canada

- On December 23, 2021, the provincial government announced that out of an abundance of caution and to slow the spread of the Omicron variant, schools across PEI will remain closed to students until at least January 10, 2022.[45]

- The Education and Lifelong Learning Minister, Natalie Jameson: "The health and well-being of our school community continues to remain at the forefront of all our decisions. This move to remote learning will allow students to continue to learn, and respect the additional public health measures our CPHO currently has in place to protect Islanders. We hope that today's decision will provide clarity and certainty to parents, guardians, students and staff as they prepare for the New Year."[45]

- Schools will reach out to students on Tuesday, January 4, 2022 to ensure they have access to the necessary technology for remote learning. Learning materials and tasks will be made available and remote learning will begin on Wednesday, January 5, 2022.[45]

Nova Scotia, Canada

- Nova Scotia has extended their holiday break for students in response to the rise in Omicron infections. Students should return to the classroom on January 10, 2022, few days later than previously scheduled (January 6, 2022). Staff will return on January 4, 2022; this will allow more time for public health measures to be put in place before students return.[38]

- Other safety measures are in place (i.e., masking, limiting movement in school buildings, reducing numbers in cafeterias).[38]

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