

Health Impacts of the COVID-19 Pandemic on Children and Youth

Date: March 30, 2022

To: Board of Health

From: Medical Officer of Health

Wards: All

SUMMARY

This report responds to the Board of Health's request for an update on the impact of the COVID-19 pandemic on school-age children and youth, including current programs operated by Toronto Public Health (TPH) to support this population (see Item HL35.7).

The COVID-19 pandemic has had both direct and indirect impacts on the health of children and youth. Data on COVID-19 cases and outcomes over the course of the pandemic show that children and youth have generally experienced less severe outcomes from COVID-19 infection, relative to older age groups. Although rare, instances of serious illness and loss of life have occurred among children and youth. These are tragic outcomes for those who have been impacted, as well as their family, friends, and communities.

Children and youth have experienced a wide range of indirect physical and mental health outcomes that are concerning and merit further investigation and attention. The COVID-19 pandemic led to multiple interruptions to in-person learning for Toronto's children and youth resulting from both school closures and loss of educational days due to illness and isolation requirements. Although these and other public health measures were necessary to mitigate the spread of COVID-19 and its associated health impacts, evidence shows that they had unintended impacts for many of Toronto's children and youth in the areas of mental health, substance use, nutrition, physical activity, and negative impacts on their access to dental health services and vaccines against preventable diseases.

Remote learning has also led to widening pre-existing educational disparities due to limited support and resources for remote learning among students with pre-existing behavioural concerns, lower socio-economic backgrounds, single parent homes, racialized and marginalized groups, Indigenous communities, or those that have pre-existing mental health concerns.

Nonetheless, the experience of children and youth has not been uniform, and there are indications that the shift to remote learning was beneficial for some. This points to a need for further investigation to inform approaches that address the urgent need for focused policy, strategies, and population-level interventions targeting the vulnerable population of school aged children and youth to promote mental health recovery, growth, and development.

While the direct provision of mental health services falls outside of TPH's mandate, staff will continue to collaborate with schools, school communities and school boards, providing the public health expertise necessary to integrate these interventions into the school system and TPH's existing school health offerings. Toronto Public Health will also provide expertise regarding the need to understand current and future mental health issues through research and the evaluation of interventions.

RECOMMENDATIONS

The Medical Officer of Health recommends that:

1. The Board of Health request the Medical Officer of Health to work with the Province of Ontario and Toronto school boards to conduct further research and establish a baseline assessment of the mental health and well-being of youth in Toronto, to be used to measure the performance of future interventions.
2. The Board of Health request the Medical Officer of Health to work with Toronto school boards to assist in the development of short and long-term approaches to promote the mental health and well-being of children and youth in Toronto and report back to the Board of Health with a status update in the second quarter of 2023.
3. The Board of Health request the Province of Ontario to provide resourcing to address the service backlog in the School Immunization and Dental Screening programs and support efforts to expedite this work through new service delivery channels and approaches.
4. The Board of Health request the Ministry of Health to implement a provincial electronic immunization registry for all vaccines as soon as possible.
5. The Board of Health request that the Ministry of Health work with local public health units and other relevant stakeholders to explore and implement approaches and activate more channels to further facilitate access to vaccines for children and youth, including vaccines that are traditionally administered in the School Immunization Program.

FINANCIAL IMPACT

There is no financial impact associated with the adoption of the recommendations in this report.

DECISION HISTORY

At its meeting of March 21, 2022, the Board of Health adopted Item HL35.7 "Request for Update on the Impact of the COVID-19 Pandemic on Children and Youth" and requested the Medical Officer of Health to report to the Board of Health meeting on April 11, 2022 with an update on the impact of the COVID-19 pandemic on school-age children and youth, including current programs operated by Toronto Public Health to support this population, and any recommendations for the Board's consideration. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.HL35.7>

COMMENTS

1. Children and youth generally experienced less severe health outcomes as a result of infection with COVID-19, relative to older individuals

Over the course of the COVID-19 pandemic, children and youth have generally avoided serious illness resulting from COVID-19 infection. The number and proportion of severe COVID-19 cases (resulting in hospitalization, intensive care admission, or death) among school-aged children and youth (aged 5-11 and 12-17 years) have, fortunately, been consistently lower compared to other age groups, since the start of the pandemic and during the recent Omicron wave.

While rare, serious outcomes and loss of life have occurred in this age group. These are tragic outcomes for those who have been impacted, as well as their family, friends, and communities. Since the start of the pandemic (January 21, 2020 to March 19, 2022), 260 individuals aged 0-17 years were hospitalized due to COVID-19, representing 0.7 percent of reported cases in that age group. Hospitalized cases in that age group represented less than 0.1 percent of hospitalized cases (13,784) in all age groups. Total intensive care admissions (32) and deaths (1) were even rarer in individuals aged 0-17 years, both accounting for less than 0.1 percent of reported cases. Hospitalization rates were consistent throughout the successive waves of the pandemic (ranging from 0.6-1.7 percent: wave 1 was highest with 1.7 percent as testing capacity was limited and was not open to all individuals at that time, and 0.6-0.7 percent for each subsequent wave from 2 to the current Omicron wave). Given provincial testing restrictions that result in underreporting of case counts, it is very likely that the true rates of severe outcomes are lower than reported for this age group.

These outcomes are attributable both to the less severe nature of COVID-19 in the majority of children and youth, as well as to the success in vaccinating Toronto

residents aged 5-17 years. As of March 21, 2022, 57 percent of residents aged 5-11 years and 95 percent of residents aged 12-17 had received at least one dose of the COVID-19 vaccine.

Nonetheless, public health measures including school closures, student dismissals, and cohorting were necessary at a time when community transmission of COVID-19 was high and when the COVID-19 vaccine was not available or had yet to be administered to a large proportion of the population in order to mitigate the spread of COVID-19.

There is evidence that these measures were successful in reducing the spread of COVID-19 among children and youth. While the precise impact of these measures on broader community spread in Toronto and Ontario is challenging to determine, they were reasonable temporary measures taken out of an abundance of caution to protect the population.

2. Necessary public health measures resulted in disruptions to in-person learning and school-based services, resulting in indirect health impacts on this population

Over the course of the COVID-19 pandemic, children and youth faced profound disruptions and changes to their daily lives. Between March 14, 2020 to May 15, 2021, Ontario schools were closed to in-person learning for 20 weeks in total.¹ Additionally, there were over 192,000 student dismissals from Toronto schools due to isolation requirements as a result of COVID-19 school cases and outbreaks from September 2020 to December 2021.

While necessary to mitigate the spread of COVID-19, the implementation of these preventative measures impacted school-based programming, including comprehensive school health initiatives, student nutrition programs, school immunization programs and school dental services, as well as children and youth's mental health and well-being.

The COVID-19 pandemic has impacted the mental health and well-being of children and youth

The impact of the COVID-19 pandemic on the mental health and well-being of children and youth is evident throughout the literature. Global studies report rates of anxiety, depression, stress, and loneliness have more than doubled from pre-pandemic levels, with anticipated long term consequences.^{2, 3, 4, 5, 6} During the pandemic, many children and youth internationally reported experiencing disengagement from school and attendance issues, resulting in concerns with academic achievement.^{2, 7} Data from the first year of the pandemic indicated that one in four youth experienced increased depressive symptoms and one in five experienced elevated anxiety.^{7, 8} Increased prevalence of post-traumatic stress disorder (PTSD), mood swings, suicidal ideation, and general psychological distress are reported among children and youth across studies, with one Canadian survey reporting a 32 percent increase in experiences of worry and stress since the beginning of the pandemic.^{3, 5, 6}

Toronto-based studies further support these findings. Among Toronto District School Board (TDSB) students, mental health concerns are prominent among international students, students with special needs, and students facing discrimination.¹⁹ Data from the study by The Hospital for Sick Children reported a higher level of mental health symptoms and stress for both children and caregivers in families with lower household income and parental education rates.¹⁰ The pandemic may also be implicated in an increase observed in hospital data on emergency department visits related to self-harm among children and youth in Toronto, which increased from 467 visits in the 15 months before the pandemic to 606 visits in the 15 month from pandemic onset.¹¹

While there is evidence of increased substance use among older Canadians during the pandemic,¹² there is limited data on the impact of the pandemic on student substance use in Toronto. Upcoming research is expected to address this data gap.

Experiences of remote learning vary among children and youth

Students' experiences with remote learning, a primary teaching method in Ontario during the pandemic, have been mixed. Remote learning has been associated with higher levels of depression and anxiety for school-aged children.^{10, 13} A study by The Hospital for Sick Children found a significant increase in experiences of depressive and anxiety related symptoms among school aged children (aged 6-8), with strong association to time spent in online learning.¹⁰ However, a Canadian study found that pandemic measures may have improved rates of bullying, with decreased rates of general, physical, verbal, and social bullying.¹⁴ Rates of cyber bullying have remained steady in comparison to pre-pandemic.¹⁴

The variation in student experiences is reflected in local data. In a 2020 TDSB survey assessing students' pandemic and remote learning experiences, 30 percent of students reported feeling worried about coping with their fear and anxiety, 23 percent expressed the need for support with social/emotional learning skills, and 21 percent voiced the need for mental health and well-being supports.⁹ Additionally, as compared to a survey conducted in April 2017, in January 2021 TDSB students from grades six to twelve reported feeling lonelier, less happy, and 60 percent reported feeling stressed often or all the time.^{15, 16} Reports from Maximum City replicate these trends, with school aged children expressing worry regarding impacts from missing in-person synchronous learning, including falling behind, lack of connection with teachers/friends, failing class, lack of routine, and missing extracurricular activities; however, some respondents also reported positive outcomes such as feeling more calm, happy, and rested, finding schoolwork less stressful, and finding it easier to concentrate, indicating that student experiences of remote learning were not uniform.¹⁷

Health inequities are apparent in the COVID-19 pandemic's impacts on children and youth

There are disparities in how the COVID-19 pandemic has affected the health of children and youth. Canadian children and youth with pre-existing mental health and behavioural concerns, lower socio-economic backgrounds, single parent homes, racialized and

marginalized groups, and Indigenous communities are particularly vulnerable to the negative outcomes associated with the COVID-19 pandemic.^{5, 7, 18} Global and local data show that school closures have led to a greater risk of widening pre-existing educational disparities due to the lack of support and resources for remote learning among students from lower socio-economic backgrounds.^{2, 10}

With school closures and heightened COVID-19 prevention measures, school-based resources, supports and services that promote physical and mental well-being were not readily available to students at different points during the pandemic, which may have contributed to the inequities noted above.

The COVID-19 pandemic has contributed to a decline in physical activity and access to nutritious food among children and youth

International and national studies have reported that the unintended consequences from preventative measures during the COVID-19 pandemic have concurrently impacted physical health behaviours for children and youth groups.^{2, 4, 5, 7, 13, 19} Studies from Ontario have demonstrated an association between higher levels of screen time and increased rates of mental health concerns including symptoms of depression, anxiety, and inattention.^{10, 13, 19} In Toronto, pandemic restrictions, while necessary to mitigate the spread of COVID-19, have been shown to perpetuate sedentary behaviours with increased screen time and decreased outdoor time, with 61 percent of TDSB students reporting lack of physical activity, and 49 percent indicating increased screen time.^{13, 15, 19} Reports from Maximum City and The Hospital for Sick Children further add to pandemic related data, with 61 percent of school aged children spending less time being physically active, 73 percent reporting more use of technology, only 27 percent report participating in sports, and 16 percent in extracurricular activities.^{10, 17}

During school closures, students had reduced access to Student Nutrition Programs (SNPs) that offered healthy snacks and meals in identified priority schools. Student Nutrition Programs in TDSB schools have been reported to improve education outcomes such as increased attendance and class participation, and improve problem solving, mathematical and reading skills.²⁰ Toronto Public Health has adapted the SNP over the course of the pandemic to focus on supporting remote learners through initiatives such as stocking food pantries, extending grab-and-go programs, and engaging in the Food for Kids program, which distributed \$50 food cards to children and youth in need who were unable to access regular SNP services.

The COVID-19 pandemic has interrupted student immunization programming, resulting in increased risk of vaccine-preventable disease

Immunizations are a critical public health intervention supporting the prevention of disease.²¹ Prior to the COVID-19 pandemic, Toronto Public Health delivered the Student Immunization Program, which administered Human Papillomavirus (HPV), Hepatitis B and meningococcal vaccines to students in grades seven through twelve, thereby providing them with protection against acute disease and cancers resulting from infection with Hepatitis B and nine strains of the Human Papillomavirus.

Routine immunizations that are usually provided by primary care providers have also been delayed due to the pandemic. The MMR (measles, mumps, rubella) vaccine, for example, is necessary to prevent outbreaks from imported cases of measles that occur in Toronto each year. With travel increasing, these routine vaccinations will be even more important in the coming months.

With the interruption of the School Immunization Program and delayed receipt of routine vaccinations by most Toronto children, there is an increased risk for vaccine preventable diseases and outbreaks in schools due to under-vaccination of the student population and an increased risk of cancer in the longer-term for students who do not receive their Human Papillomavirus and Hepatitis B vaccines.

The COVID-19 pandemic has disrupted access to dental and oral health services for children and youth

Toronto Public Health supports dental screening of approximately 200,000 students across 640 schools annually, with data from 2018-2019 showing that approximately 29,000 students had urgent or non-urgent tooth decay requiring dental care. This screening effort also identified 282 of those schools as high risk, with greater than 14 percent of the student population presenting with dental caries. This program is especially important in promoting the dental and oral health of low-income children and youth, who are less likely to have private insurance that covers dental care.

Prior to the pandemic, approximately 16,000 children accessed TPH dental clinic services annually. This number dropped to 3,619 in the two-year period between March 2020 and March 2022 leaving behind a significant service gap. Safe and efficient resumption of the school screening program, post-pandemic surveillance data, and additional resources are necessary to support ongoing assessments of the impact of COVID-19 on children's dental and oral health.

3. Toronto Public Health is playing an active role in supporting the physical and mental health of children and youth, now and in the future

Public Health Units play an important role in providing information and guidance to help promote healthy behaviours among students. Toronto Public Health supports approximately 800 publicly-funded schools in Toronto, with a total enrolment of over 344,000. Toronto Public Health has a long history of collaboration with school communities in Toronto, including work to promote physical, social and mental well-being in addition to supporting education and curriculum outcomes.^{22, 23}

Prior to March 2020, Toronto Public Health used the [Healthy Schools Framework](#), which is an evidence-based approach recommended by Province of Ontario's [School Health Guideline, 2018](#). Using this framework, TPH staff working in schools collaborated with school champions to assess, plan, and implement health action plans and supported youth engagement, peer leadership and school staff capacity building activities. Toronto Public Health staff also played a liaison role between schools and other TPH school health services by streamlining access, coordination and

communication efforts using a strength-based, client-centred approach.

In the course of responding to the COVID-19 pandemic, TPH has deepened its partnerships with the education sector, setting the stage for effective collaboration to support the health of children and youth in the years to come. The need for this work is clear. As this report demonstrates, the experience of children and youth during the pandemic has been unique, unprecedented, and often challenging. There is a need for a renewed approach to supporting the mental health and well-being of children and youth, to address both the immediate impacts of the pandemic, and help establish the foundation for positive mental health outcomes in the long-term.

As Toronto emerges from a period of broad public health restrictions and transitions into a new phase in living with and managing COVID-19, it is critical to establish a baseline measure of the mental health of children and youth in order to develop and subsequently evaluate the performance of future population-level interventions. In concert with its partners, TPH will explore existing and new data collection strategies that will assist in developing a robust baseline. This work is already underway, with both the TDSB and Toronto Catholic District School Board planning to implement student surveys in the fall. Toronto Public Health will continue to collaborate with the school boards to include survey questions related to mental health, well-being and substance use to contribute to this baseline.

Toronto Public Health will remain engaged in developing and implementing population-level public health interventions that support the mental health and well-being of children and youth. While the delivery of mental health services falls outside of TPH's mandate, TPH will provide continued public health guidance to service delivery organizations, provide referrals to primary care, and continue to assess population-level mental health outcomes for this age group.

Toronto Public Health is working to resume and expand key school-based services that were paused during the COVID-19 pandemic

Toronto Public Health will continue to leverage the strengthened relationship with the four publicly-funded School Boards to collaborate with schools and school communities to assess opportunities to implement, enhance and expand initiatives in the following key areas of public health intervention.

School Immunization Program

During the pandemic, Toronto Public Health was unable to administer Hepatitis B, Human Papillomavirus, and meningococcal vaccines to students in grades seven through twelve. An estimated 73,000 students in grades seven through twelve still require one or more of these vaccines to be fully protected. Additionally, COVID-19-related disruptions have prevented the assessment of routine vaccinations among childcare centre attendees and students for three consecutive school years. With a lack of assessment for required vaccines (meningococcal, varicella, pertussis, measles, mumps, rubella, diphtheria, tetanus and polio) there is an increased risk for these

diseases in children and youth, and associated increase for the risk of outbreaks in Toronto schools and childcare settings.

Hepatitis B, Human Papillomavirus, and meningococcal vaccines are currently being offered through City-run Immunization clinics, and additional opportunities will be available for students to receive vaccines at school-based clinics in the coming months. Toronto Public Health is currently working with school boards to offer school-based vaccines alongside COVID-19 vaccines in high schools. To further promote and expedite uptake of these important vaccines, Toronto Public Health will continue to collaborate with provincial counterparts and other health system stakeholders to facilitate vaccination opportunities in other settings, such as primary care and pharmacies.

Dental and Oral Health Services

As a result of the pandemic, the school dental screening program was suspended in March 2020. In lieu of this program, information was provided to and forwarded by schools to parents advising of virtual or in-person screenings. Parents could make arrangements by contacting one of the TPH dental clinics that continued to operate during the pandemic.

Throughout the last two years, TPH dental clinics remained open across the city to provide emergency essential services to eligible clients including children 0-17 years of age. The number of clinics fluctuated (between 3 to 16) with the pandemic waves, due to the need to redeploy dental staff to support the response to COVID-19.

A phased resumption of school screening is being planned, prioritizing schools that historically presented with the highest rates of caries (i.e., tooth decay). In the interim, TPH will be offering, as a pilot, dental screening for children and youth in grades seven and eight in tandem with the Hepatitis B, Human Papillomavirus and Meningococcal vaccinations currently being provided in the City-run Immunization Clinics.

4. Next Steps

Throughout the COVID-19 pandemic, TPH has made extensive efforts to support the health and well-being of Toronto's children and youth. Toronto Public Health will continue to monitor the direct impacts of COVID-19 on children and youth and will respond as required. As Toronto transitions to a new phase in living with and managing COVID-19, TPH is shifting its focus to ensure that the indirect effects of the pandemic on this population are thoroughly investigated and addressed through interventions developed in collaboration with education sector partners. Toronto Public Health will prioritize this work in the coming months, and report back to the Board of Health with a status update in the second quarter of 2023.

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SIGNATURE

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ATTACHMENTS

Attachment 1: References

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