

Global school outbreaks linked to the SARS-CoV-2 variant B.1.1.7. A brief update

COVID-19 POLICY SERIES
GLOBAL HEALTH GOVERNANCE PROGRAMME
2nd March 2021



THE UNIVERSITY
of EDINBURGH



GLOBAL HEALTH
GOVERNANCE PROGRAMME

Summary:

- The B.1.1.7 variant is increasing in prevalence globally and is now the most dominant strain in multiple countries worldwide
- Simultaneously, countries are re-opening schools at either partial or full capacity, including in-person teaching.
- As children and staff have been returning to school, several outbreaks have been reported in numerous places around the world, including in Canada, USA, Israel, Denmark and Italy.

COVID-19 B.1.1.7 variant spread

- The increase in spread of the B.1.1.7 variant is significant in some parts of the world and has become the dominant COVID-19 strain in new cases in multiple countries.
- Currently, European countries are generally seeing the highest prevalences and percentages of positive COVID-19 cases stemming from B.1.1.7 (Figure 1).
- It is estimated that the B.1.1.7 variant is roughly 50% more transmissible than previous variantsⁱ.

Country	Total #VUI202012/01 GR/501Y.V1 (B.1.1.7)	#VUI202012/01 GR/501Y.V1 (B.1.1.7) in past 4 weeks	%VUI202012/01 GR/501Y.V1 (B.1.1.7) in past 4 weeks
United Kingdom	101,280	27,503	95.3
Denmark	3,247	1,129	49.4
USA	1,690	527	5.4
Belgium	1,658	643	42.3
France	1,517	553	39.6
Italy	1,451	966	42.0
Netherlands	1,266	414	31.1
Ireland	1,157	322	72.5
Spain	1,108	123	27.9
Switzerland	954	459	46.3

Figure 1. Countries with highest reported prevalence of B.1.1.7 variantⁱⁱⁱ

Global schools opening

- Schools in many countries globally are being partially or fully opened as restrictions are eased, coming out of the second COVID-19 lockdown. Currently (per 2nd March 2021), approx. 144.7 million learners are affected by partial or full closure of schools, equating to 8.3% of enrolled learners (figure 2).
- However, these numbers were approx. 263.1 million learners and 15%, respectively, just one month agoⁱⁱⁱ, ^{iv}. These numbers are representative for primary, secondary and tertiary education levels.

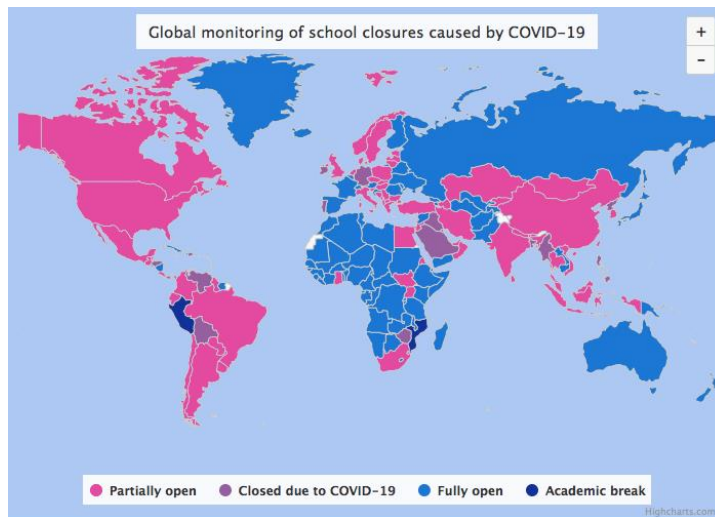


Figure 2. Global monitoring of school closures^v

COVID-19 schools outbreaks linked to B.1.1.7 variant

Canada

Québec

- In the state of Québec, 33 schools closed between 22nd February and 1st March due to a COVID-19 outbreak from a “variant of concern” which includes B.1.1.7^{vi}.
- The majority of school closures are located in Montreal and it is feared that the new B.1.1.7 variant is driving school closures. It has been reported that nearly 10% of cases stem from “variants of concern”^{vii}.
- On 24th February, a total of 229 active outbreaks were registered in Québec with 1.960 students and 443 members of staff being infected. This amounted to 28.2% of all active outbreaks in the state^{viii}.
- Since schools opened again on 5th January, 63% (1893/2994) of schools in Québec have registered at least one new COVID case^{ix, x}.
- According to the Montreal Public Health Director Dr. Mylene Drouin, the city outbreaks mainly sprung from children and their parents^{xi}.

Toronto

- In Toronto, 5 schools and 7 childcare centers have recently closed due to COVID-19 (per 28th February). An additional school closed on 1st March, with 6 confirmed COVID-19 cases, 4 of them being “variants of concern”^{xii}.

Denmark

Kolding

- In Kolding two schools, who had newly opened, and eight daycare centers saw considerable outbreaks and were closed^{xiii}.
- As a result, the government closed all schools and daycare centers (with postal code 6000 in Kolding) on the 19th February^{xiv}. This includes a total of 15 schools and 28 daycare centers. These restrictions have recently been extended to the 7th March^{xv}.

Aabenraa

- It is believed that an outbreak in a local daycare center triggered a recent significant increase in local transmission, as 16 children, 5 pedagogues and 6 parents were initially infected, while more are believed to be infected^{xvi}
- The daycare center subsequently closed.

Italy

Town of Corzano (Lombardi)

- During late January, 24 students and teachers tested positive for the virus in a school in the Northern Italian town of Corzano^{xvii}.
- On 3rd February 10% of the town population tested positive for COVID-19. 60% of these were children of primary or infant school age^{xviii}.
- Upon receiving these results, the health authorities in Brescia sequenced the samples from Corzano and subsequently identified the B.1.1.7 variant in all the sequenced samples, which was 14 at the time^{xix}.

Israel

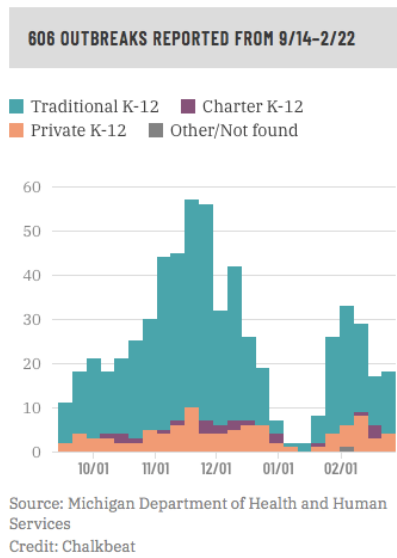
- In January, more than 50.000 children and teens tested positive in Israel – more than had previously been seen in any one month^{xx}.
- Health experts and pediatricians in Israel are sounding the alarm as it is believed that the B.1.1.7 variant is generating this surge among the youngest population groups^{xxi}.

USA

Michigan

- 606 outbreaks in schools have been registered in the state of Michigan between 14th September and 22nd February. As can be seen in figure 3, a recent spike in school outbreaks and positive cases associated with these outbreaks has taken place.
- There is a concern that this spike is directly linked to the surge in the prevalence of the B.1.1.7 variant^{xxii}
- The partial reopening of schools in Michigan increased in January^{xxiii}.

COVID-19 outbreaks in MI schools



COVID-19 cases from outbreaks

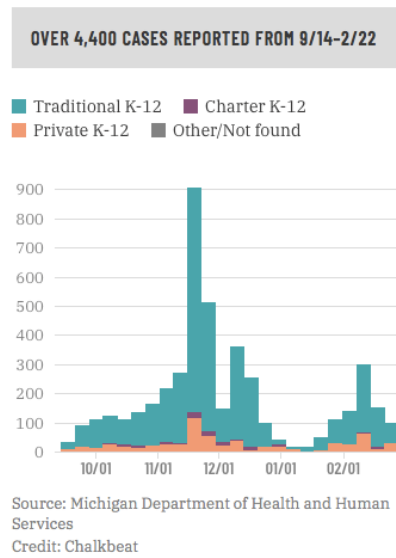


Figure 3. School outbreaks in Michigan, USA^{xxiv}

ⁱ <https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e2.htm>

ⁱⁱ <https://www.gisaid.org/hcov19-variants/>

ⁱⁱⁱ <https://en.unesco.org/covid19/educationresponse>

^{iv} <https://ourworldindata.org/grapher/school-closures-covid>

^v <https://en.unesco.org/covid19/educationresponse>

^{vi} https://docs.google.com/spreadsheets/d/1cU9_JiWJ4NdvCWAleivb3pNweYgaqt4GBRIWPI3MyxM/edit#gid=0

^{vii} <https://montreal.ctvnews.ca/montreal-has-22-variant-outbreaks-mostly-at-schools-daycares-nearly-10-of-all-cases-are-variants-1.5322541>

^{viii} <https://montreal.ctvnews.ca/suspected-covid-19-variants-lead-to-wave-of-quebec-school-closures-1.5319447>

^{ix} <https://montreal.ctvnews.ca/quebec-schools-report-thousands-of-active-coronavirus-cases-among-students-and-staff-1.5105612>

^x <https://www.quebec.ca/en/health/health-issues/a-z/2019-coronavirus/list-schools-reporting-covid-19-cases/>

^{xi} <https://montreal.ctvnews.ca/montreal-has-22-variant-outbreaks-mostly-at-schools-daycares-nearly-10-of-all-cases-are-variants-1.5322541>

^{xii} <https://toronto.ctvnews.ca/toronto-school-closed-until-further-notice-after-six-test-positive-for-covid-19-including-four-variant-cases-1.5329542>

^{xiii} <https://www.dr.dk/nyheder/regionale/trekanten/smitte-stiger-i-kolding-corona-lukker-skoler-og-otte-daginstitutioner>

^{xiv} <https://sum.dk/nyheder/2021/februar/skaerpede-tiltag-i-kolding-kommune>

^{xv} <https://www.lokalavisen.dk/nyheder/2021-02-27/Smitteboom-Her-skal-skoler-fortsat-holde-helt-lukket-7623671.html>

^{xvi} <https://jv.dk/artikel/smittetal-fordoblet-pa-et-dogn-udbrud-i-børnehaver-er-forklaringen>

^{xvii} <https://medicalxpress.com/news/2021-02-outbreak-uk-virus-variant-italian.html>

^{xviii} <https://www.bmj.com/content/372/bmj.n383>

^{xix} <https://medicalxpress.com/news/2021-02-outbreak-uk-virus-variant-italian.html>

^{xx} <https://www.bmj.com/content/372/bmj.n383>

^{xxi} <https://www.bmj.com/content/372/bmj.n383>

^{xxii} <https://detroit.chalkbeat.org/2021/1/28/22238495/covid-cases-in-mi-schools-explainer>

^{xxiii} <https://detroit.chalkbeat.org/2021/1/26/22249109/michigan-classrooms-reopening-pandemic-continues>

^{xxiv} <https://detroit.chalkbeat.org/2021/1/28/22238495/covid-cases-in-mi-schools-explainer>