

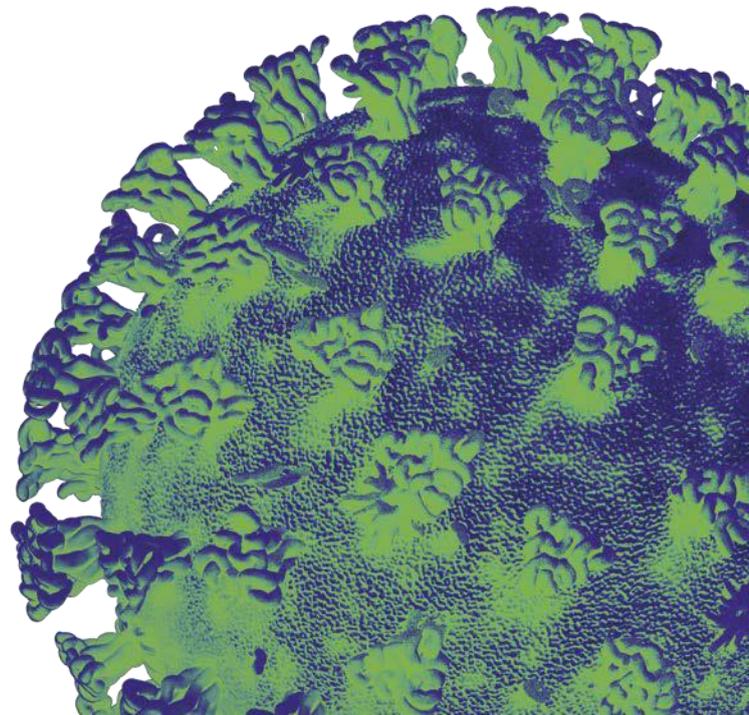
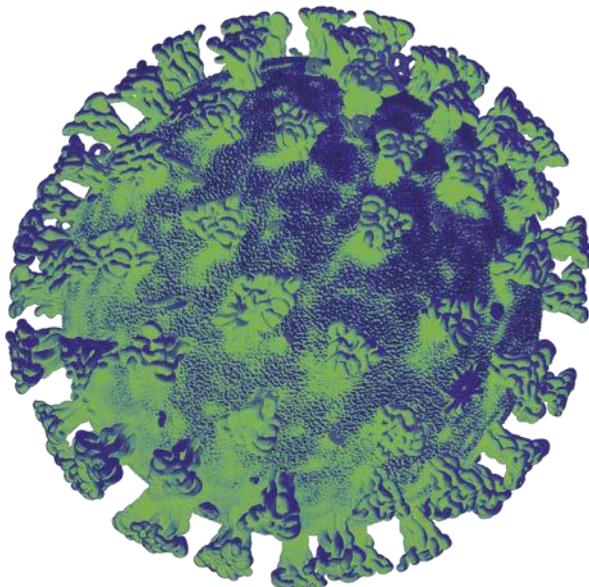
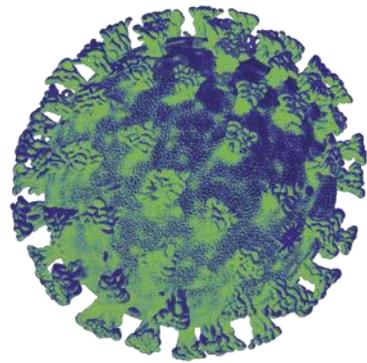


Llywodraeth Cymru
Welsh Government

Technical Advisory Group

Evidence review on Children and Young
People Under 18 in Preschool, School or
College following the Firebreak

09 November 2020



Technical Advisory Group Children and Education Subgroup

Evidence review on Children and Young People Under 18 in Preschool, School or College following the Firebreak – 09/11/2020

Situation:

1. A 'Firebreak' was implemented in Wales from 18:00 hours Friday 23 October for 17 days (until Monday 9th November) to address the situation that R in Wales was above 1, with increasing pressure on hospital and ICU beds. Local lockdowns had produced some effects but modelling at 18 Oct 2020 suggested increased deaths without further limits on social mixing as a 'firebreak' period to slow spread of infection.
2. The 'firebreak' included agreement that primary schools should open as normal after half term (26-30 October), as well as years 7 and 8. Older school students and FE would be subject to the 2 week firebreak, with learning from home except for exam students and vulnerable learners (those whose physical and mental wellbeing meant that attending school or college was particularly important). This followed current SAGE advice suggesting secondary school closures could affect R up to 0.35 but this was a low confidence figure and no lower limit was given.
3. Additional modelling and empirical data from the ONS¹ Covid surveillance study indicates that there is now evidence of higher levels of infection and transmission in school based age groups than previously recognised, a higher rate of asymptomatic transmission, and children are more likely to be the first case in a household.
4. This new evidence indicates that schools being open is associated with higher rates of infection in the population, although the mechanism for this remains unclear (potentially including many factors such as reopening of workplaces, parents returning to work, shops and hospitality, social mixing outside schools).
5. There is strong evidence that continuing preschool, school or college attendance is important to support the wellbeing of children and young people in terms of physical, psychological and social needs, to access additional support such as free school meals and SEN support, as well as being instrumental in reducing inequalities in educational outcomes.

Background:

6. Ministers have committed to keeping schools open until last resort.
7. The planned half term was a natural break of 1 or 2 weeks depending on Local Authority, coinciding with the first full week of firebreak.

¹ ONS [Coronavirus \(COVID-19\) Infection Survey pilot : England, Wales, and NI 16 October 2020](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyspilot/latest)
<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveyspilot/latest>

8. School continued for some secondary age students in years 9 upwards for academic considerations.
9. Online or blended learning alone, or when used in an inappropriate context, or when not accessible by the student, is not a sufficient long term substitute for classroom teaching and its prolonged use is likely to disadvantage digitally excluded students and increase inequality. For those on vocational courses in FE, and those doing science or some arts courses in schools too, extended online-only learning is not feasible as they need access to practical tuition (e.g. workshop, salon, car engine, lab, pattern-cutting table) to learn skills and achieve qualifications.
10. Any approach must balance the potential risks of a controlled education based environment with the risks of informal or uncontrolled social mixing outside the formal school day.

Analysis of available evidence:

Epidemiology:

11. Evidence continues to suggest that children and young people under the age of 18 are much less susceptible to severe clinical disease than adults.
12. Contact tracing studies² indicate that under 18s show low school or community based transmission despite being susceptible to household transmission. Pre-school and primary aged children are less susceptible to infection than adults, but secondary aged children are more likely to show gradually increasing rates as they approach adulthood.
13. The updated ONS³ study shows data by school related age groups, and has shown growth in the Covid-19 infection rate in all age groups under 18 since the end of August. Rates were highest in older teenagers and young adults (year 12 and older, including Higher Education age groups). ONS warned that extreme caution should be taken in over-interpreting small movements in the narrower age groups, particularly those in school Years 7 to 11, which have wider credible intervals. In the data used to produce these estimates, the number of people sampled in the different age groups who tested positive for COVID-19 was lower relative to England overall, meaning a higher degree of uncertainty in estimates for individual age groups over this period, as indicated by larger credible intervals.
14. The REACT⁴ study update gives a more detailed and accurate breakdown of Covid-19 cases by age group. This showed increased case incidence in all age

² <https://science.sciencemag.org/content/early/2020/09/29/science.abd7672> Epidemiology and transmission dynamics of COVID-19 in two Indian state Laxminarayan et al *Science* 30/09/20

³ ONS Coronavirus (COVID-19) Infection Survey pilot : England, Wales, and NI, 16 October 2020 <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveysurvey/23october2020>

⁴ Riley et al https://www.imperial.ac.uk/media/imperial-college/institute-of-global-health-innovation/REACT1_Round5_Paper.pdf High increasing prevalence of SARS-CoV-2 swab positivity in England during end September beginning October 2020: REACT-1 round 5 updated report

groups except primary school age, and an increase in secondary school age groups up to age 17 commensurate with rates in other older age (25+) groups, but lower than the 18-24 age group. Rates in school students are consistently seen to reflect rates in the general population. The significantly greater rates in the 18-24 age group matches reports of very increased rates especially in first year university students.

15. Virus transmission to and from children and young people may occur in household, community and educational settings, and there is a lack of evidence to identify the most significant contributor to transmission of the 'end to end' behaviours and contacts associated with childcare, school or college attendance but not occurring in the care or education settings themselves. Children's and adults' journeys to and from school and other extracurricular or wrap around activities and gatherings, gathering at school gates or at drop off and pick up points, shared lifts, use of school or public transport, increased inter-adult contacts such as return to work or greater social mixing, may all contribute to increased risk of transmission. Current analyses are unable to pin down the precise role of each interaction in transmission.
16. Contact and mobility measures suggest that mixing outside the home continued to occur during school closures. Following schools reopening in September, the reported number of contacts for children aged 5-17 in England increased overall. Overall reported contacts at this time occurred within schools, but also in the home and community, with unclear evidence about the contacts most significant for transmission.
17. Daily monitoring of cases in students and staff in Welsh schools since September showed⁵ consistently increasing cases in schools up to the reporting date of 26 Oct 2020. The majority of secondary schools had experienced a case at some time between September opening and 26 October, amongst staff or students. However fewer than half of primary schools had. At 26 October 2020, 1,122 out of 1,551 (72%) schools in Wales (primary, secondary, special and PRU) had had no cases amongst staff or students within the past 21 days, 246 (16%) had 1 case, 84 (5%) had 2 cases and 99 (6%) 3 cases or more, with data summaries reported weekly. Case identification was followed by prompt school led isolation of 'contact bubbles', with Environmental Health Officer (EHO) led TTP contact tracing. EHOs reported very little evidence of clusters due to spread identified in the school setting.
18. Considering risks to school and teaching staff, ONS data indicates that teaching is not a high risk profession, with positivity rates of pre-school, primary and secondary school teachers and staff of comparable ages, and household members, statistically similar to other low risk workplaces.

⁵ <https://gov.wales/technical-advisory-group-review-data-and-monitoring-support-childcare-schools-and-fe-operations-age>

Non Pharmaceutical Interventions:

19. Potential mitigations for infections⁶ (Non Pharmaceutical interventions, NPIs) are available, and should be implemented effectively, especially hand and surface hygiene, ventilation, social distancing, use of face coverings, and reducing contact groups and face to face contacts.
20. SAGE advised on NPIs '*if schools are to remain open then a wide range of other measures will be required*', and lists possibilities, including intermittent school attendance of cohorts on a week or fortnight on /off basis. This offers a range of potential methods of education operation, to help maintain social distancing. Modelling suggests that these approaches could reduce likelihood of infection, but assume there is no social mixing outside the home during 'off school' periods. Intermittent school attendance models would require halving class sizes to increase social distance in school, and so could double tuition time. The model could also impact on parental attendance at work and reduce social mixing for that reason, so the benefit of reducing student attendance per se, in the absence of other population based controls, is unproven.

Balance of benefits and harms of school closures

21. School closures are very likely to affect the mental health of adolescents, are moderately likely to impair students' cognitive, social, and emotional developmental outcomes and may also have an adverse effect on children's physical wellbeing.
22. A recent paper from Sweden⁷ concludes '*School closure is a costly measure with potential long-run detrimental effects for students. The results presented are broadly in line with theoretical work indicating that closing the schools is not a particularly effective way to contain SARS-CoV-2 (Viner et al., 2020), at least not when facing as high a level of contagion as Sweden did during the spring of 2020.*'
23. The ECDC Schools report⁸ from August states '*There is conflicting published evidence on the impact of school closure/re-opening on community transmission levels, although the evidence from contact tracing in schools, and observational data from a number of EU countries suggest that re-opening schools has not been associated with significant increases in community transmission*'
24. ECDC⁹ recommends '*Broad school closures should be seen as a last resort, and only after other significant measures have been put in place within the community to contain the spread of the disease.*'

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925854/S0769_Summary_of_effectiveness_and_harms_of_NPIs.pdf

⁷ School closures and SARS-CoV-2. Evidence from Sweden's partial school closure Jonas Vlachos, Edvin Hertegard, Helena B Svaleryd <https://doi.org/10.1101/2020.10.13.20211359>

⁸ <https://www.ecdc.europa.eu/en/publications-data/children-and-school-settings-covid-19-transmission>

⁹ <https://www.ecdc.europa.eu/en/covid-19/facts/questions-answers-school-transmission> 2 Sept 2020

25. The Lancet systematic review by Viner¹⁰ underlined the difference between modelling studies and empirical data: *'Data from the SARS outbreak in mainland China, Hong Kong, and Singapore suggest that school closures did not contribute to the control of the epidemic. Modelling studies of SARS produced conflicting results. Recent modelling studies of COVID-19 predict that school closures alone would prevent only 2–4% of deaths, much less than other social distancing interventions.'*
26. A recent BMJ paper¹¹ confirmed that *'The model predicted that school closures and isolation of younger people would increase the total number of deaths, albeit postponed to a second and subsequent waves'*, and concluded *'The optimal strategy for saving lives in a covid-19 epidemic is different from that anticipated for an influenza epidemic with a different mortality age profile'*, suggesting that, the viral dynamics of coronavirus are unlike flu in children under 18s. However additional evidence as well as genomic analysis is needed to clarify viral transmission mechanisms.
27. Experience in Europe indicates that following variable lengths of closure of daycare, primary and secondary schools between March and September, almost all countries have reopened schools fully following the initial lockdown period. Increasing numbers are using additional NPIs such as face coverings in a wider range of situations, and restricting numbers of daily contacts.

Evaluation:

28. The evidence from surveillance studies indicates a new finding of evidence of higher levels of infection (symptomatic and asymptomatic) and transmission in school based age groups than previously recognised, especially in 11-17 age groups.
29. This new evidence indicates that schools being open is associated with higher rates of infection in the population, although the precise mechanism for this, and the direction of transmission, remains unclear. This factor should be included in planning assumptions when developing options for school operations in the period following the firebreak, especially for the use of NPIs for infection control.
30. There is strong evidence that continuing preschool, school or college attendance is important to support the wellbeing of children and young people.

Recommendations:

31. School based controls and existing recommended NPIs, that are well coproduced and planned to promote adherence, are essential to maintain infection control and limit transmission rates in preschool, schools and FE under age 18. Additional mitigations should be considered including ways of reducing daily face to face contacts to reduce exposure risk, and the possibility of

¹⁰ Viner et al 2020 [https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642\(20\)30095-X/fulltext](https://www.thelancet.com/journals/lanchi/article/PIIS2352-4642(20)30095-X/fulltext)

¹¹ Effect of school closures on mortality from coronavirus disease 2019: old and new predictions *BMJ* 2020; 371 doi: <https://doi.org/10.1136/bmj.m3588> (Published 07 October 2020)

wearing face coverings for older age groups in more circumstances, including on public and dedicated transport. This could even include in the classroom on a risk assessed basis, where effective social distancing cannot be maintained, balancing benefits with harms to overall wellbeing of students, and in conjunction with local resilience forum decision making.

32. Consideration should be given to exploring the feasibility of mass asymptomatic testing programmes in school and college settings to enhance infection control and maintain confidence of students, parents and staff. The development of any testing programme should take into consideration background infection rates, the full spectrum of available testing technologies, the context of community testing and balance of strategic priority and testing capacity.
33. Schools, colleges and childcare facilities should be maintained as covid secure workplaces for all staff (teaching and non-teaching). Clinically extremely vulnerable (CEV) staff should follow CMO guidance about working from home if possible, or ensuring workplace mitigations. Infection Prevention and Control (IPC) guidelines for intimate care and PPE use should be observed at all times.
34. Staff and students should be supported to understand the importance of controls on social mixing and reducing the number of daily face to face contacts, especially outside the controlled educational environment, to reduce risks of infection. This includes on journeys to and from schools, and during extracurricular activity or gatherings in formal and informal educational situations.
35. Staff at schools, colleges and care facilities should engage with students and families to communicate and mitigate the risks of infection during all activities associated with childcare, schools and FE. The communication strategy should follow the COM-B approach, to help motivate a sense of agency and adherence to Infection Prevention and Control (IPC) principles in childcare, schools and colleges, as well as promoting underpinning attitudes of community altruism towards young people. This could help promote engagement with strategic priorities for young people's future wellbeing, and adherence to other personal restrictions that allow schools and colleges to operate safely and effectively.
36. Additional data analysis and research /modelling should be commissioned, of specific school age cohorts to address key identified unanswered questions relating to the balance between infection control and effective education for school and FE students under 18. This should include an updated estimate of the effect on R of all age groups up to 18 during school opening.