

Children's Task and Finish Group: Comments on sequencing of social distancing measures (schools)

20 May 2020

SIGNED OFF BY CHAIR ON BEHALF OF TASK AND FINISH GROUP

Summary

1. This note is provided to SAGE to form part of the response to a commission from the Cabinet Office (CO) on 19 May 2020. It only comments on elements relating to schools, and should be read in conjunction with the separate SPI-M and SPI-B statements.
2. It is not feasible to provide updated modelling on new scenarios in the limited timescale provided. We have provided some high-level insights on CO proposals from the existing work of the Children's Task and Finish Group (TFC), SPI-M and SPI-B.
 - The group supports the principle of relaxing measures individually, with sufficient time between changes to enable impact to be assessed.
 - Prior to any further relaxation of school closures, there needs to be clear messaging and communication, developed in partnership with parents and carers, children and education professionals.
 - It is essential that strong testing and response systems, achieving 80%+ coverage and rapid turn-around in results, are in place. Protocols should include the specific plans for schools, including criteria for reactive school closure. These need to be clearly communicated to parents and carers, children, and education professionals.
 - Test, track and tracing of children may be more challenging given privacy and safeguarding issues for apps (and lower use of smartphones amongst young children), and difficulty of swabbing young children. There also needs to be consideration of thresholds for testing children – as transient fever is very common in young children
 - School openings cannot be viewed in isolation, and their interaction with other measures must be considered. The impact of multiple relaxation measures on transmission is likely to be greater than the sum of their individual effects.

- It is essential to note that schools do not only affect children. Staff and parents will also be directly impacted; it is probable that opening of schools will increase transmission in these groups. Any relaxation of closures will also need to consider how to reduce risk from the potential mixing of adults at school gates, in the staff room etc, and have protocols in place for vulnerable groups.
- The consequences of changes in behaviour or contacts outside of schools as a result of schools reopening can potentially have a larger effect on transmission than the effect of school openings themselves: for example, enabling more parents to return to work.
- The impact of partial school openings on transmission is partly influenced by the proportion of children in school. However, it is essential to note that this is not a linear relationship, and will be affected by other measures in place, the detail of how the partial opening is implemented, the age of children etc.
- The findings from previous modelling of school modelling (SPI-M analysis of 4 May 2020; TFC analysis of 1 May 2020) cannot be directly applied to the current proposals, as this considered school openings in isolation, or alongside more modest changes in other contacts.
- This modelling of 4 May 2020 conducted by SPI-M can only provide broad insights. However, as the non-school measures implemented on 13 May 2020 and those proposed for Step 2 (opening of non-essential retail; bubbling) are much more extensive than those considered in the modelling, the impact of the *same* school measures modelled are likely to be higher than previously estimated.
- School openings cannot be understood solely in terms of the risk of infection and transmission. The cumulative impact of school closures needs also to be considered: the longer that schools are closed, the more profound the difficulties will be and the greater the cost and challenge to overcome them – it is a fine balance and secondary impacts need to be carefully considered.
- We note the proposal on bubbling. We stress caution at introducing too many changes at once, given the uncertainty in the impact of any particular measure. Opening of schools will compromise any restrictions on bubbling – in effect, households of children in the same class will be part of the same

bubble. This is likely to create more extensive chains of transmission. If bubbling is chosen, consideration should be given to recommendations that households with children at one school cannot form a bubble with another household that has children at a different school, as this will lead to extended networks of contacts between schools.

Insights from the group

- The CO commission of 19 May 2020 refers to a Step 2 package of intervention, and two variants for relaxation of school closures. A summary of these, measures implemented on 13 May 2020 and questions of relevance for schools is given in Annex A.

Previous modelling of social distancing measures (4 May 2020)

- The SPI-M modelling from 4 May 2020 assumes that a highly effective test, track and isolate policy is in place. The SPI-M consensus view (4 May 2020) tabled at SAGE 33¹ considered potential relaxation of social distancing measures for phases 1 and 2² of the Government’s strategy as follows.

	Work contacts	Leisure contacts	Children in school
Phase 1 (from 11 th May)	20 percentage point increase on current level	No change to current level	11% (vulnerable children and children of key workers)
Phase 2 - scenario 1 (from 1 st June)	10 percentage point increase on phase 1	10% increase on current levels	25% total (add in transition years)
Phase 2 - scenario 2 (from 1 st June)			50% total (add in all primary schools)

- Please note that the phase 2 school relaxation modelled was for inclusion of transition years (years 5, 6, 10 and 12) or primary years - approximating to 25% and 50% of children respectively. It was not for 25% of transition years and 50% of primary school children, as stated in the CO commission.
- There were mixed findings from modelling groups on the impact of phase 2 as specified above, with results depending on assumptions on the susceptibility and infectivity of children and pre-symptomatic / asymptomatic people. One group

¹ SPI-M-O: Consensus view on potential relaxing of social distancing measures

² References to “phase 1 and 2” will refer to the scenarios modelled on 4 May, to distinguish against “step 1 and 2” – referring to the measures implemented on 13 May and proposals currently under consideration for June

estimated that R would remain under 1, whilst others found that R would be equal to greater than 1 in some or all regions.

Applicability of 4 May modelling to current commission

7. **Findings from the SPI-M modelling from 4 May cannot be directly applied to the current proposals**, and can only offer broad insights. The modelled scenarios for phases 1 and 2 do not reflect the measures which came into force on 13 May 2020 (“Step 1”), or those currently proposed for Step 2. In particular, the measures implemented on the 13th included allowing people to meet with one person outside their household outdoors at 2m distance. However, no increase in leisure contacts was modelled in phase 1. It is also not yet clear what the impact of the relaxations in Step 1 has been.
8. **School openings cannot be viewed in isolation, and their interaction with other measures must be considered.** Adherence to other interventions, and the behavioural response to other activities as a result of school relaxation, will be critically important. Indeed, it is likely that this could be more influential than the exact school policies implemented in determining whether the reproduction number remains below 1.
9. **Moreover, it is crucial to note that any modelling conclusions are dependent on the assumed presence of a highly efficient track, trace and isolate policy (80% of contacts isolated within 48 hours).** There was a consensus that high quality tracing was essential to keeping R under 1. Current capacity and TTT assumptions may not support this level of tracing to be in place by 1 June 2020. Less efficient systems will reduce the leeway for relaxation of measures, as discussed in the SPI-M return.
10. Evidence on the relative susceptibility and infectivity of children remains limited. The balance of evidence suggests susceptibility of younger children to infection/disease, and so on transmission, may be lower. There is no significant change in the evidence base within our current uncertainty bounds.

General principles and insights

11. **The group supports the principle of relaxing measures individually**, and only once the impacts of prior measures can be observed. This gradual easing of measures has less risk of a substantial increase in transmission. It also better supports impact assessment of measures, and allows individual relaxations to be reversed if necessary.

12. Interventions must be eased in a logical manner. Failure to do so will influence the number of parents who are willing to send their children to school. It is important to explain why resuming school attendance is safer to resume or must be resumed for other important reasons (such as to reduce harm to vulnerable children), compared with other activities, such as going to work. For example, it may be confusing if individuals were encouraged to return to school, but the number of times that they are allowed to leave the house each day remains the same.

13. Prior to any further relaxation of school closures, there needs to be clear messaging and communication developed in partnership with parents and carers, children and education professionals. It is also **essential that testing and response protocols achieving 80%+ levels of coverage and rapid turn around in results are in place:**

- There needs to be careful monitoring and surveillance of schools and those associated with schools (e.g. weekly swabbing of teachers, other school staff, and the pooled testing of all the children in the class), including the collection of baseline data.
- Test, track and tracing of children may be more challenging given privacy and safeguarding issues for apps (and lower use of smartphones amongst young children), and difficulty of swabbing young children. There also needs to be consideration of thresholds for testing children – as transient fever is very common in young children
- There also needs to be a clear policy for reactive school closures defining criteria for closing classes, year groups or schools in the event of an outbreak – as in Taiwan. In order to be effective, the school (or cohort) would need to be closed for at least two weeks.

14. As caveated, the other changes in place alongside school openings, and their impact on adherence is crucial. The impact of multiple changes on transmission is likely to be greater than the sum of their individual effects. For instance, proposals to open non-essential retail spaces and bubbling will increase leisure and social contacts. This will not only affect behaviour of parents/children in attendance and behaviour in schools, but also the risk of transmission in these settings. Opening of schools will also compromise any restrictions on bubbling – in effect, households of children in the same class will be part of the same bubble. This is likely to create more extensive chains of transmission.

15. **Any assessment of school openings must also take into account the behavioural response to other activities as a result.** For example, it is likely that increased school openings will enable more parents to return to work.
16. **Previous modelling has generally considered school openings in isolation, or alongside more modest changes in contacts.**
17. **School openings cannot be understood solely in terms of the risk of infection and transmission.** Sprang et al (2013) report that children isolated or quarantined during pandemic diseases were more likely to develop acute stress disorder, attachment disorder and grief. Around 30% of the children who were isolated or quarantined met the clinical criteria for post-traumatic stress disorder. Time is an important issue – the longer this goes on, the more profound the difficulties will be and the greater the cost and challenge to overcome them – it is a fine balance and secondary impacts need to be carefully considered. As it stands, educational outcomes are seriously at risk, especially for disadvantaged pupils (DfE, 2020, p.1). School closures can also impact emotional attachment and a failure to positively support psychological wellbeing are likely to have longer term negative implications for child development (WHO, 2004; Norredam et al, 2018).
18. The impact of partial school openings on transmission partly corresponds to the proportion of children in school. However, it is essential to note that this is not a linear relationship, and even with all else held equal, the effect on R of increasing the proportion of children back at school may be above linear. In addition, as the number of children attending increases, the capacity of schools and teaching staff to social distance, limit class sizes or rota children/staff will be limited – hence further increasing transmission risk.
19. The effect may also differ across age. Epidemiologically, returning older children (years 10 and 12) may be higher risk than returning younger children, due to their mixing patterns. It is also possible that susceptibility and infectivity is higher in adolescents than younger children, although evidence for this is very uncertain. Older children have greater capacity for self-regulation, although it is uncertain whether this would always translate into greater adherence to social distancing and hand-washing.
20. The wider impacts of school closures are likely to differ across age and social groups. For example, those in times of transition – Y6 moving into secondary school, and those at the top end of secondary are likely to be affected more (i.e. No formal

'ending' of their schooling, no exams, prom etc). A period of learning at home is also likely to reinforce inequalities between children. Months away from school could mean that emerging learning problems are missed by teachers and educational psychologists.

21. The more vulnerable children in our society are likely to be affected the most. Failure to positively support psychological wellbeing are likely to have longer term negative implications for child development (WHO, 2004; Norredam et al, 2018). We also know that school attachment and belonging are linked to later educational attainment (Wong et al., 2019).
22. The level of attendance will be strongly influenced by whether it is perceived as normative. This will be affected by prior messaging to parents and education professionals, as well as the other interventions in place (and order of easing).
23. Local interpretation and implementation of school measures will be fundamental in determining the impact of partial school openings. The proposed scenario only states that "schools will be deploying a range of tailored NPIs suited to their size: smaller classes, reduced timetables, staggered breaks/lunches". However, the magnitude of impact from relaxing school closures is heavily dependent on the exact measures taken – that is: the same level of attendance by a group of children will have differing impacts on transmission if this is through half size classes at full-time, half days, fortnightly rotas etc. It will also be affected by local factors – such as travel to school, the building environment, ability of schools to reduce environmental transmission etc.
24. The effectiveness of some interventions, such as the use of rotas (e.g. children/staff attending on two-week cycle, with no more than 50% attendance at one time) will also be compromised if there is variation across schools, particularly if children from one household attend schools on different systems.
- 25. It is also essential to note that schools do not only affect children.** Staff and parents will also be directly impacted; it is probable that opening of schools will increase transmission in these groups. Any relaxation of closures will also need to consider how to reduce risk from the potential mixing of adults at school gates, in the staff room etc, and have protocols in place for vulnerable groups.

[Insights on specific CO proposals](#)

26. We have not modelled the specific scenarios for partial re-openings set out in the CO commission:

- **Variation 1A:** A return of 50% eligible children in early years (0-4), primary years R, 1 and 6 and attendance of vulnerable children and children of key workers. With 50% of years 10 and 12 students attending school for 1 day each week. Schools will be deploying a range of tailored NPIs suited to their size: smaller classes, reduced timetables, staggered breaks/lunches.
- **Variation 1B:** A return of 50% eligible children in early years (0-4)

27. However, we have drawn some insights from the existing work of TFC, SPI-M and SPI-B. Please note that any comments are relative/qualitative; we cannot provide an absolute assessment of the impact at this stage³.

28. As set out earlier, it is important to note that previous SPI-M modelling (4 May 2020) was predicated on highly effective contact tracing and isolation, together with fairly modest increases in work/leisure contacts in phases 1 and 2. As the measures implemented on 13 May 2020 and those proposed for Step 2 (opening of non-essential retail; bubbling) are much more extensive, the impact of the *same* school measures modelled would likely be higher than previously estimated.

29. Variation 1A includes approximately 30%-35% of children in state schools. The proportion of children included therefore sits between previous scenarios for transition years and primary schools. However, as caveated earlier – the impact on transmission is above linear with the number of children in attendance. 1A includes a higher proportion of younger children.

30. Scenario 1A includes children from primary years R, 1 and 6, as well as years 10 and 12 resuming school. This will lead to potential links between primary and secondary schools through children from the same household (or bubbled household). This connects up the community into a larger whole, and will risk any track and trace quickly needing to run across multiple schools.

31. As option 1B is a subset of 1A, it is clear that the impact of 1B is highly likely to be smaller than that of 1A. In the TFC paper “Modelling and behavioural science responses to scenarios for relaxing school closures” presented at SAGE 31 (1 May 2020), modelling consistently indicated that resuming early years provision had a smaller relative impact than primary schools. However, this did not incorporate the

³ In considering the scenarios, we assume that children with symptoms or living with someone who has symptoms continue to self-isolate, and children who are shielding (clinically extremely vulnerable) or living in a household with someone who is shielding continue to remain at home. We also assume that 1B continues to include attendance of vulnerable children and children of key workers

indirect impact on contacts outside of schools. It is likely that resuming early years provision has more of an impact on adults returning to work, or parental contacts in the context of school (eg. drop-offs).

Annex A: CO commission on sequencing of social distancing measures

Background on CO proposals

1. The CO commission of 19 May refers to a Step 2 package of intervention, and two variants for relaxation of school closures. For the purposes of the commission, it assumes measures are implemented from 1 June 2020.
2. Measures which came into force on 13 May 2020:
 - For the foreseeable future, workers should continue to work from home rather than their normal physical workplace, wherever possible;
 - All workers who cannot work from home should travel to work if their workplace is open;
 - Local authorities and schools should therefore urge more children who would benefit from attending in person to do so;
 - When travelling everybody (including critical workers) should continue to avoid public transport wherever possible;
 - People may exercise outside as many times each day as they wish;
 - People may drive to outdoor open spaces irrespective of distance;
 - People may meet with up to one person outside of their household outdoors at a 2m distance.
3. Proposed Step 2 package:
 - **Schools reopening:** Variation 1a, as below
 - **Non-essential retail:** Phase 1: Opening all shops up to 280m² in size. This constitutes 90% of all shops, approximately 35% of the sector by value, and around 60% of its employment. Phase 2: Open remaining shops from 22 June if science advice at the time allows. It is assumed premises will implement social distancing guidelines, similar to those for essential retail.
 - **Household bubbles:** Allowing a household to 'bubble' with one other household in an exclusive group (up to a maximum of 10 people) - assuming that all those choosing to bubble observe core principles (maintaining exclusivity, self-isolating as one etc).

4. Variation on school closure relaxation:

- **Variation 1A:** A return of 50% eligible children in early years (0-4), primary years R, 1 and 6 and attendance of vulnerable children and children of key workers. With 50% of years 10 and 12 students attending school for 1 day each week. Schools will be deploying a range of tailored NPIs suited to their size: smaller classes, reduced timetables, staggered breaks/lunches.
- **Variation 1B:** A return of 50% eligible children in early years (0-4)

Questions

5. There are three questions of relevance to schools from the commission.

Question 4: SAGE is asked to assess the impact on R and level of incidence of the baseline step 2 package. SAGE is asked to provide: (a) an overall assessment of the impact of the package; and (b) an assessment of the relative contribution to this impact of each measure. This should include any relevant tools or visualisations where appropriate.

Question 5: As part of this, SAGE is also asked to confirm whether the conclusions from the 05 May annex on schools and the chart of options for reopening still stand. If they do not, SAGE is asked to provide updated analysis using the previous assumptions for school reopening.

Question 6: SAGE is asked to advise on the impact on R and level of incidence if each measure were scaled up or down as set out below. Each variation should include a total impact assessment that assumes the baseline package adjusted with the respective variation; and the discrete impact of each variation. This should include any relevant tools or visualisations where appropriate. As set out above, SAGE is also asked to advise on how each of these elements could be changed to de-risk or mitigate the impact of transmission.