RE-OPENING SCHOOLS POST COVID-19

May 2020
DECREASE IN INFECTION RATES WILL ALLOW RE-OPENING OF SCHOOLS

Change in school closure figures from April to now

Rationale for school re-openings

- Governments are easing lockdown measures to **restart economies**
- Schools critical given link to **parents re-joining the workforce** and contributing to the economy
- Importance to avoid further **disruptions to the academic year**, in particular for graduating classes
- **Singapore, Denmark, and Germany** are some of the first countries to begin gradual re-opening of schools

Opening strategies include fundamental changes to logistics, processes, and procedures to ensure preparedness for potential waves of infection

Source: UNESCO COVID-19 Impact on Education as of 20/05/20
1. From 31-Mar to 20-May – see appendix for details

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CURRENT THINKING IS A STAGED APPROACH TO RE-OPENING SCHOOLS

1. Pre-opening
- Extensive track, trace, and testing both through swab testing and purpose-built apps
- Preparation of schools:
  - Staff training with enhanced roles for nursing staff, facilities, and counsellors
  - Physical space planning to ensure small groups with sufficient distance
  - Scenario planning in case of infection
  - Planning for infection waves, flexibility to shift to and from distance learning

2. Opening
- Openings
  - Staged openings with priority to critical grades
  - Staggered arrivals, lessons, and breaks
- School area
  - Temperature checks at entry
  - Enhanced sterilization and cleaning processes
  - Masks and general PPE distribution to students and staff
- Classroom area
  - Limiting interaction (desk distancing, screen dividers...)
  - Limiting students in classrooms and physical space planning

3. Post-opening
- Close monitoring of infection rates with continued track/trace
- Quarantine measures should infections be detected
- Continued education of staff, students, and parents in maintaining hygiene practices at school and at home
- Clear and effective communication between schools, students, and parents

Structural measures implemented will allow for eventual scaling and greater prevalence of school openings prior to the end of the current academic year
BUT PHYSICAL DISTANCING WILL MEAN A DECREASE IN PUPILS PER CLASSROOM, INCREASING SPACE REQUIREMENTS

• Based on the UK’s baseline design for schools\(^1\) a primary school for **210 students requires 1315m\(^2\)**
  – Equivalent to 6.3m\(^2\) per student or **26 students per classroom**

• Should this **decrease to 15 students per classroom**, as per latest guidance, classroom **space requirement will increase by 1.74X**

• **Expanding capacity** by, for example, re-purposing rooms such as a sports hall will still mean **30% of students cannot be accommodated**

• These figures **exclude the requirements for staff** and other key workers within the school

• Thus full school **re-opening will require a holistic set of solutions** to minimize additional cost whilst fulfilling obligations to students, parents, and teachers / staff

Restrictions will mean on average 30% of students cannot be accommodated

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1. Education and Skills Funding Agency, 2018
Source: GOV.UK baseline designs for schools guidance
HOLISTIC SOLUTIONS NEED TO CONSIDER A VARIETY OF FACTORS TO ENSURE SAFE RE-OPENING WITH REDUCED CLASS SIZES

Considerations to re-opening schools given space limitations

<table>
<thead>
<tr>
<th>Consideration</th>
<th>Issue</th>
<th>Solution(s)</th>
<th>Implications</th>
<th>Cost</th>
<th>Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodating all students</td>
<td>Unable to accommodate all students at the same time due to limited space</td>
<td>Staggering school day into shifts</td>
<td>• Downtime for students during the day&lt;br&gt; • Extra teaching capacity required</td>
<td>☺☺</td>
<td>☺☺</td>
</tr>
<tr>
<td>Teacher numbers</td>
<td>Should school day be staggered extra teaching capacity will be needed</td>
<td>Extend teaching hours and/or hiring more teachers</td>
<td>• Significant cost expected&lt;br&gt; • Risk of teaching imbalance / standards</td>
<td>☺☺</td>
<td>☺</td>
</tr>
<tr>
<td>Content</td>
<td>Reduced school day might mean more content taught over shorter timeframe</td>
<td>Utilize distance learning solutions to supplement lost school-time</td>
<td>• Integration of curriculum with distance learning solution / infrastructure&lt;br&gt; • Training of teachers, students, and parents</td>
<td>☺☺</td>
<td>☺☺</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Prioritization of space for teaching may impact physical education</td>
<td>Promote home exercise for students as a component of distance learning</td>
<td>• Solutions required for monitoring of activity&lt;br&gt; • Training of teachers, and parents</td>
<td>☺☺</td>
<td>☺</td>
</tr>
<tr>
<td>Space for staff</td>
<td>Prioritization of space for teaching may impact space allocated for staff</td>
<td>External temporary office space given limited specifications compared to classrooms</td>
<td>• Cost associated with any enhancements to space&lt;br&gt; • Outdoor space may be limited</td>
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## APPENDIX – SCHOOL CLOSURE APPROACHES AROUND THE WORLD

Most countries chose to close schools as a suppression measure, but approach to re-opening is varying

<table>
<thead>
<tr>
<th>Closed, staying closed</th>
<th>Closed, but re-opening</th>
<th>(Almost) not closed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US</strong></td>
<td><strong>Israel, Norway, Finland, France</strong></td>
<td><strong>Taiwan</strong></td>
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<tr>
<td>– Officials in 47 states, District of Columbia and all 5 US territories have ordered or recommended that schools stay closed for the remainder of the academic school year</td>
<td>– Re-opening beginning with primary school</td>
<td>– Schools in Taiwan only closed for 2 weeks (February)</td>
</tr>
<tr>
<td>– Universities are likewise closed with many having cancelled summer term and considering remote learning for fall</td>
<td>– Singapore, Hong Kong, Czech Republic, Germany, South Korea</td>
<td>– Schools were open through March and April even while more stringent measures were put in place</td>
</tr>
<tr>
<td><strong>UK</strong></td>
<td><strong>Operations are being modified in multiple ways, e.g.</strong></td>
<td><strong>Japan</strong></td>
</tr>
<tr>
<td>– No plans for re-opening schools have been announced</td>
<td>– Spacing desks 6 feet apart</td>
<td>– School closure decisions were left up to the city or prefecture, not mandated at the Federal level</td>
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<tr>
<td>– Unclear if schools will reopen prior to summer holidays</td>
<td>– Temperature checks before entering buildings</td>
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<td></td>
<td>– Holding classes outside</td>
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<td></td>
<td>– Limiting class sizes</td>
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<td></td>
<td>– Shifted schedule – half the students in school at a time supplemented with remote learning</td>
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<td></td>
<td>– Strict restrictions against sharing utensils, touching other students, etc.</td>
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Are kids at risk of severe illness?

- Initial epidemiological evidence from China suggested lower infection rates and lower severity of illness in children (~1%)
- This evidence has been reproduced in Europe and the US, but criticized for potential challenges due to 1) lack of testing in children and 2) studies being conducted post school closures
- Studies on broadly tested populations (S. Korea) also reveal very low rates of infection in children
- Mortality for children has been low, only a handful of cases worldwide
- Cases of pediatric multisystem inflammatory syndrome (a severe complication that in some cases resembles Kawasaki disease) potentially linked to COVID-19 illness are beginning to emerge in the US and Europe, but numbers are still very low

Do kids transmit COVID-19 to adults?

- Multiple tracing studies suggested that children were rarely the index case in a familial cluster and that transmission from child to adult was infrequent
- A recently published study from Wuhan
- and Shanghai found that while children were 1/3 as likely to get infected, they had 3 times as many contacts (when school was open) evening out the risk of transmission
- Another recent study from Germany demonstrated that children that test positive, harbor as much virus as adults suggesting infectiousness
- Multiple larger studies aimed at understanding transmission patterns in children are underway (e.g. NIH HEROS, St. Michael’s Hospital, Toronto)

Do simulation models suggest school closures impact R0?

- Imperial College COVID-19 response team’s simulation suggested that while school closures reduce R0, it was the least effective
- of the measures they modelled
- Simulations from a recent study in China suggest that while school closures are not sufficient on their own to control the epidemic on their own, they can reduce peak incidence by 40–60%
- A recent review of the literature also sites
- an early simulation of a SARS-like illness which concludes that school closures would reduce the effective R0 by 12–41%

Summary: Yes, but at a lower frequency than adults

Summary: Evidence is very mixed

Summary: Most models suggest some impact, but extent varies

Sources: Adapted from Science (link) and (link), New York Times (link) and (link), Don’t Forget the Bubbles (link) and Lancet (link)
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APPENDIX – SCHOOL CLOSURES WERE A DRASTIC MEASURE WITH WIDE IMPACT
Evidence is mixed on whether the measure makes sense
Oliver Wyman and our parent company Marsh & McLennan (MMC) have been monitoring the latest events and are putting forth our perspectives to support you clients and the industries you serve around the world. The Coronavirus Hub will be updated daily as the situation evolves.

Visit our dedicated COVID-19 website