

Independent Scientific Advocacy Group

A Better Way Forward: Toward Elimination of Covid-19

<https://www.isagcovid19.org>

ISAG Discussion Paper on Reopening of Schools

Summary points

On March 1st 2021, a second phase of school reopening saw children with special educational needs, the four youngest primary school-going years, and Leaving Cert students return to schools. While the official narrative has been that 'Schools are Safe', available evidence suggests that contacts in schools have similar levels of risk to contacts anywhere else. To mitigate these risks we recommend:

- Strong suppression of transmission in the community. Schools are only as safe as the communities they are in; we make schools safer by getting the virus down, keeping it down, and keeping it out of our communities.
- Adequate resourcing of our Public Health system to enable source identification (backward tracing) and contact tracing for all school and community cases of COVID19.
- A redefinition of close contacts as those who share the same classroom.
- A phased reopening plan that is linked with local (Local Electoral Area) 14-day Incidence Rate per 100,000 population, combined with a hybrid learning and rota system.
- Uniform policies on mask wearing for all secondary students and for primary school students from Senior Infants on (i.e., age 6 and up).
- Clear guidance, support, and resourcing for schools on ventilation, CO2 monitoring, social distancing, testing, and
- Direct support from public health for all school outbreaks, including rapid testing and isolation at whole class level.
- Access to appropriate PPE for teachers and students.
- Vaccination for teachers as soon as possible after very high risk groups, beginning with those working with children and young people with additional needs.

Context

On 12th March 2020, at the beginning of the “first wave” of COVID19 infections in Ireland, schools closed to all children. Schools did not reopen until the beginning of September. When they reopened, huge effort went into making school spaces safe for pupils and staff alike. Hand and cough/sneeze hygiene was promoted, children were assigned to pods and bubbles, classes played and took breaks independently, teachers and secondary school pupils wore masks, and gatherings such as assemblies were foregone. Schools remained open throughout the “second wave” in October - a reflection of the important tenet that schools should be *first to open and last to close*. While the 6-week lockdown that began in late October did suppress case numbers - it is likely schools remaining open in the context of high rates of community infection contributed to the incomplete suppression of the virus at the end of the lockdown period. The government decided to reopen large sectors of society (e.g., restaurants and non-essential retail) for the Christmas period, at a time when daily cases were above 200 most days [1]. These actions, combined with large amounts of international travel over the Christmas period, were directly responsible for the surge in cases at the beginning of 2021 [2]. Due to the crisis that ensued, schools remained closed after the Christmas holidays until the phased reopening began in mid-February, beginning with children with Special Educational Needs (SEN). Childcare (creches) has also remained closed, except for the children of essential workers.

Effects of school closures

Closing schools has been particularly disruptive for children with special educational needs and their families. Children with Special Educational Needs typically benefit from strong structure and routine and often cannot participate in distance learning [3]. Data from the initial period of school closure during the “first wave” show that children with Special Educational Needs and their families suffered unmet support needs and increased stress and mental health difficulties [3, 4].

The closure of schools also brings inequality in the school system and society into sharp relief. There is a “digital divide” between children in fee-paying urban schools and those in public schools and in parts of Ireland with inadequate broadband coverage [5]. Data from the last closure indicates that, along with children with Special Educational Needs, children from low-income backgrounds suffered the most severely negative impact of school closures [6]. Data suggest that children in this group are less likely to have devices to support online learning [5], and are more likely to disengage from education, to have learning losses, and to be at increased risk for early school leaving [7]. Further research suggests that learning losses may compound the other effects of social disadvantage, casting a long shadow over these young persons’ lives [8]. Children from disadvantaged backgrounds also suffer the most severe negative psychosocial impacts of the pandemic more generally (e.g., neglect and domestic violence) and this is exacerbated by school closure [9].

The experience of school closures has been disruptive to learning and stressful to families, even amongst children who are protected from such inequities [10, 11]. International reviews and empirical studies suggest increased distress, particularly depression amongst children and young people from before to during the pandemic [12] and following school closures [13]. Childhood and adolescence are critical periods for brain development, during which the brain is incredibly plastic (to enable learning) but also sensitive to adverse experiences [14]. Prolonged periods of stress and disruption to age-typical learning and socioemotional

experiences may have long-term effects on cognitive, social, and emotional development [15].

Despite these challenges, children and families have been resilient. Yet, the burden of homeschooling and childcare during the pandemic has fallen heavily on women, who make up ~80% of the healthcare workforce [16]. Many Irish women have already been forced out of the workplace by the cost and poor availability of childcare [17]. This is likely to have been exacerbated by COVID19 - in the US, one in four working women reports thinking about slowing their careers or leaving the workforce altogether, due to the pandemic [18]. A historic and enduring lack of representation of women at the highest decision-making levels likely contributes to a lack of sufficient attention to the caring inequities and their effects on Irish women [19].

One of the most significant challenges posed by the pandemic is balancing the broader public health threat posed by the virus with the cost to children and to families, in terms of loss of learning and social interaction, exacerbated inequalities, and negative impacts on mental health. It is also important to note that there is a large cohort of children who have been unable to school since March 2020, either because they are medically vulnerable, or someone in their home is vulnerable. Many of these children have been provided with no alternative form of education - and, as a result, have missed an entire year of education [20]. The ongoing failure to aggressively suppress SARS CoV2 extends the duration that schools are closed and excludes medically vulnerable children completely from in-person education.

Mitigation strategies influencing school safety could, and should, be implemented in Ireland to significantly increase the safety of the school environment. These would allow children to return safely to school and avoid further long-term adverse effects of school closures while protecting public health. These strategies are outlined below.

School safety

That “schools are safe” has been a refrain repeated by the Department of Education and the government. Yet data from around the world suggests this is not the case. Children and their schools are a significant source of disease transmission [21]. A small number of children who contract COVID19 can become severely ill [22], with some developing a severe syndrome known as Multisystem Inflammatory Syndrome in Children (MIS-C) or Pediatric Inflammatory Multisystem Syndrome (PIMS) [22, 23]. There is also emerging evidence that a significant proportion of children may suffer long-term effects of infection with SARS-CoV2, known as (“Long Covid”) [24].

In Ireland, it has been difficult to form a complete picture of the actual infection rate in schools because of the restrictive way school cases are treated, whereby only children in the same pod are deemed close contact and teachers are not. This approach highlights a fundamental policy issue and a more significant problem with the under-resourced public health and track and trace system that lacks sufficient resourcing to perform reverse tracing to identify infection sources. A change in the policy concerning close contact definition and tracing in schools should be adopted, such that close contacts are those who share the same classroom. This should be accompanied by rapid testing and isolation at the whole class level, which will enable more robust containment of the virus. Direct support from

public health for all school outbreaks should be enabled by proper resourcing of local public health teams.

A second oversight has been insufficient acknowledgement of and attention to the virus's airborne nature. The need to attend to air circulation and ventilation in schools has been repeatedly highlighted [25]. A relatively small investment would purchase mobile air quality (CO₂) monitoring units for each Irish school, which could be used to identify when air changes are needed (when CO₂ levels >800ppm) or to locate problem spaces requiring better ventilation [26]. Extensive guidelines on ventilation strategies in schools, including step-by-step guides, checklists, and reports on scientific evidence have been shared by the Harvard School of Public Health [27].

Recommendations

ISAG outline below a roadmap for the safe reopening of schools in Ireland. In devising this programme for the safe reopening of schools, we draw on examples of successful school reopening (in the US and Canada) and the recommendations of Indie SAGE in the UK and the CDC in the USA [28] [29].

1. To reopen schools, we must get the virus down, keep it down, and keep it out. This requires implementing a Zero Covid strategy, as recommended by ISAG:
 - a. A tightening of current restrictions is needed to get the case numbers down. As ISAG has reported during weekly webinar updates [30], there is evidence that the current Level 5 lockdown is less effective in terms of the number of people moving daily. Employers must permit employees to work from home, and the definition of essential worker and essential retail should be revisited.
 - b. To keep the virus down, we need to invest in and adequately resource our public health system. This will allow a more robust track-and-trace function that can “treat every case of COVID19 like a murder” - identifying the source and containing the infection before it spreads. To enable better identification and containment of school cases, the definition of close contacts should be changed to include all individuals who share the same classroom.
 - c. To keep the virus and, most importantly, new mutations of the virus out, we need to tighten our border controls. All incoming international travellers should undergo mandatory hotel quarantine, and this must be implemented immediately.
 - d. All of the above will protect our vaccine programme. It will enable us to complete the vaccination programme so that the most vulnerable are protected, and it will prevent potentially vaccine-resistant strains from entering or evolving in Ireland.
2. A full reopening schools should be a priority - and it should occur before other sections of the economy and society are reopened. Reopening must occur gradually and according to data, not dates. It is vital to avoid a resurgence of cases and a fourth wave. Potentially this could happen even more quickly next time, due to the higher transmissibility of the B117 variant, which now accounts for approximately 90% of Irish cases.

Following Indie SAGE and the CDC [28, 31], we recommended a colour-coded or traffic light system, implemented at the level of electoral districts as this is the level at which cases are tracked and reported. This also will allow for schools to open up safely in parts of the country where a reduction in cases has been achieved and maintained.

Schools in a district should begin to reopen when R is less than 1 and the incidence reported for that district is not rising and is less than an incidence of 100 estimated cases per 100,000 people per day for 14 days.

RED: The following measures should be implemented when the local 14-day incidence is between 50 and 100 cases per 100k:

- Significantly reduced class sizes - achievable either through prioritising the return of certain year groups (e.g., those with special educational needs, examination years, primary school years) and/or through a hybrid learning and rota system according to which a subset of pupils are in school while the rest learn online (see, for example [32]).
- Ventilation needs should be assessed [33], steps taken to increase ventilation [34], and air quality checks should be performed once every hour in every space. Ventilation should be monitored, recorded, and acted on to achieve required CO₂ levels <800ppm, as recommended by the Health Protection Surveillance Centre [35] and/or 4-6 air changes per hour for classrooms and shared spaces [33]).
- In line with WHO guidance [36], children aged 6 and above who do not have SEN or specific medical disorders should wear masks when inside the school and classroom. Hand hygiene and other safety guidelines (e.g., physical distancing, keeping classes separate at break/lunchtimes) should continue as before.
- Large gatherings (assemblies, religious services, sports days etc.) should not be permitted.
- Given the likely need for a hybrid approach, and the need to be prepared to return to fully online learning should the situation with cases deteriorate, a priority should be providing appropriate computers, internet connectivity, and study spaces for students, as required.

AMBER: When the local 14-day incidence is between 10 and 50 cases per 100k, the following measures should be implemented:

- All pupils may return to full-time in-person classes.
- Air quality checks should be performed once every hour in every space and ventilation needs (CO₂ levels <800ppm and/or 4-6 air changes per hour) should be monitored, recorded, and acted on as required.
- All children, including primary years, should wear masks. Hand hygiene and other safety guidelines (e.g., keeping classes separate at break/lunchtimes) should continue as before.
- Large gatherings (assemblies, religious services, sports days etc.) should not be permitted.

GREEN: When the local 14-day incidence is <10 cases per 100k, schools should employ “green light” safeguards. In this situation, some precautions can be foregone (e.g., assemblies might resume, children under 11 might no longer be required to wear masks) but mask wearing for young people aged 12 and over, ventilation checks, social distancing, and hygiene measures should continue.

Should rates rise again, it will be necessary to move back to a more substantial level of safeguarding, or even closure, according to the specific case incidence. The principle of “last to close, first to open” should be maintained throughout. Closure of schools should always be available as a last resort, occurring only after restrictions have been imposed on all other non-essential sectors of society.

3. All teachers should be vaccinated as soon as possible, after groups at very high risk. Amongst teachers, those working with children and young people with SEN should be prioritised.
4. Efforts should be made to mitigate against the harms of closure and the pandemic. These include, but are not limited to:
 - a. Contingency plans that will ensure that schools will stay open and supports will remain in place for those with Special Educational Needs and for vulnerable children and young people.
 - b. A permanent hybrid or online learning policy for children who cannot attend school either because they are vulnerable, or someone in their home is vulnerable.
 - c. Summer schools and additional learning supports to mitigate against learning loss.
 - d. Expanded community and school-linked mental health supports, particularly for children and young people.
 - e. Additional resources and supports for vulnerable groups e.g., an expansion of the School Completion Programme and other programmes and supports aimed at early school leavers and those at risk for early school leaving.
 - f. Funding research aimed at ascertaining and tracking the long-term impact of COVID19 infection and school closures on children and young people, including on their physical and mental health and well being, their learning and educational attainment, and their social and emotional cognition, interaction, and communication.

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ISAG (The Independent Scientific Advocacy Group) is offering the group's expertise and experience to work together with Governments and the people to aim for Zero Covid, meaning zero mystery cases in our shared islands. Founded by Anthony Staines, Gerry Killeen, and Tomás Ryan in June 2020, I.S.A.G. is independent of the government. All of our members are volunteers and they freely commit their time every week to discuss the COVID-19 science that underpins our governments' response strategies. ISAG is a multidisciplinary group of scientists, academics, and researchers who have come together to advocate for a SARS-CoV-2 elimination strategy. I.S.A.G. has published several papers outlining its strategy and recommendations, and you can find them at www.isagcovid19.org