

Independent Scientific Advocacy Group



Back to School 2021 – What we need to do to protect our children

Core Summary

- We must accept the hard truths, that without urgent action:
 1. mass infection of unvaccinated school-going children will occur;
 2. some unvaccinated children will end up in hospital due to COVID-19;
 3. a significant proportion of infected children will suffer the harm of Long Covid; and
 4. school buildings without basic protection measures increase the transmission of COVID-19.
- A political decision must be made **not to allow** the mass infection of children in Ireland.
- We must ensure that existing measures to reduce the spread of COVID-19 in schools are maintained, including:
 - Social distancing/pods;
 - Vaccination of children aged 12 to 15;
 - Rapid isolation of cases and contacts (regardless of vaccination status);
 - Weekly mass-testing across school settings.
- We must strengthen these protective measures by also:
 - Requiring high-quality masks for both teachers and pupils in schools, including primary schools;
 - Ensuring safe air-quality standards in schools, with ventilation **and** HEPA filtration;
 - Installing CO₂ monitors¹ permanently in **each** classroom and developing protocols for safe air-quality maintenance;
 - Increasing the space available to schools so they can meet social distancing requirements;

- Transparently and rapidly reporting school cases;
- Preparing for the vaccination of under 12's as, if, and when this is approved;
- Assessing the role of regular saliva based PCR testing² ;
- Every effort to prevent COVID-19 transmission in the community using vaccination, risk mitigation, and test, trace, and supported isolation.

Discussion

The largest proportion of the unvaccinated Irish population is due to gather indoors in school and further education buildings in a matter of weeks.

The Independent Scientific Advocacy Group (ISAG) is concerned that everything possible is not being done to protect these children and young people and those who care for them. ISAG agrees with the September 2020 advice of the WHO Director General³: that the *“time during which schools are closed should be used to put in place measures to prevent and respond to transmission when schools reopen.”* Last year, Irish schools did a great deal of work to reduce risks, but schools alone cannot control COVID-19.

However, on 27 July 2021, the Department of Education announced that there would be no strengthening of protections in schools when they reopen. ISAG's view is that this is not good enough. Urgent political action is required now to prevent mass infection of unvaccinated school-going children.

Context for schools re-opening

Ireland has amongst the highest rates of COVID-19 in Europe, with a 7 day incidence of over 1,700 cases per day and rising. The highest incidence is in young adults, but case rates are rising in children too. It is important to note that case numbers are exceedingly high despite the fact that schools and other educational settings are currently closed.

Most schools return in the last week in August, with over 1,000 secondary schools and 3,000 primary schools fully open then. Third level colleges open from the beginning of September, and by the start of October all will be fully back.

Minister Foley's press release ⁴(1) on July 27th says *“School Covid-19 response plans will be updated by the Department and will be available for schools in advance of reopening. It is not envisaged that there will be any updates that require schools to take action in advance of normal reopening.”*

This does not suggest any desire to improve mitigation in schools, despite abundant evidence of spread in schools⁵, and the presence of the new Delta variant, which is far more transmissible. The minister goes on to say -

“Public Health has stated that the new variants of the disease do not change the infection prevention and control measures required in schools. The evidence available from the operation of schools during Covid-19 to date shows that schools are low risk environments due to the infection prevention and control measures in place.”

This statement, which ignores the very clear evidence that the Delta variant is more transmissible than previous variants, is reminiscent of last year’s constant refrain that ‘schools are safe’. At best, the advice the Minister has received is outdated, and at worst, it is outright wrong. It is obvious that a much more infectious variant of a pandemic virus ought to lead to changes in infection prevention and control. Indeed the Minister goes on to say -

“The provision of CO₂ monitors for every school will be an important tool in keeping our schools safe and in addition to the mitigation measures already in place, our staff and students can be confident of returning to safe environments in our schools.”

This is, rather clearly, a change in the infection prevention and control measures, and one that we welcome. However, the questions that remain at this late stage are: how and when is the provision of monitors being rolled out, and how are the readings to be interpreted and acted upon in classrooms?

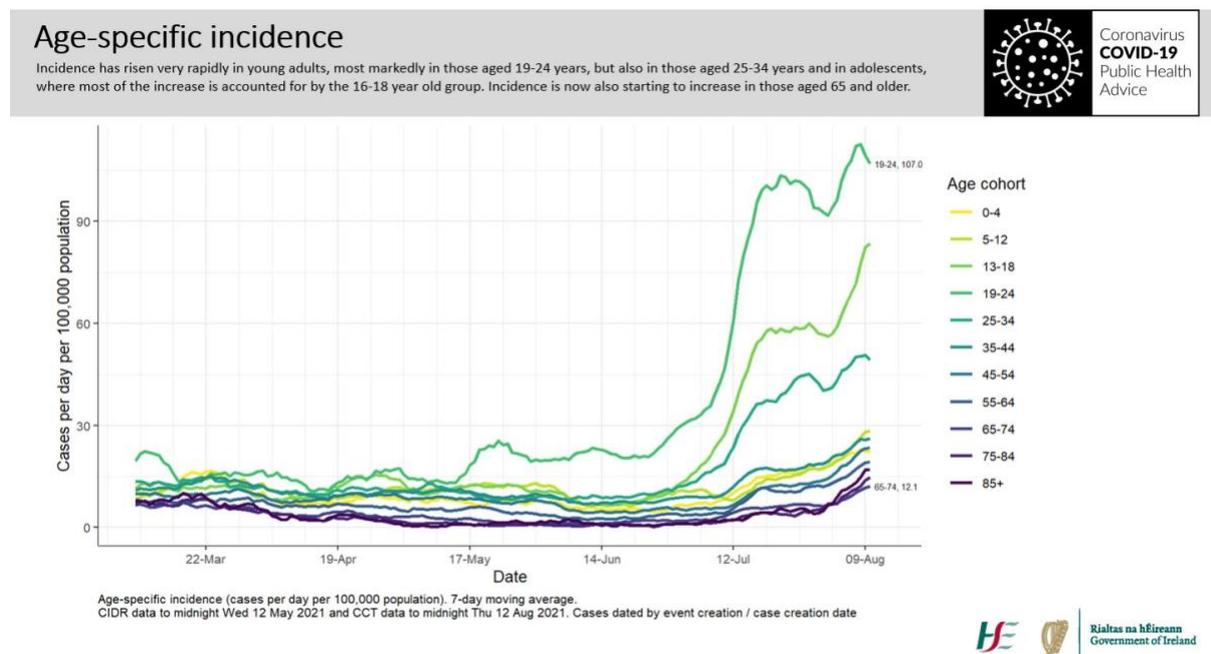
Throughout this pandemic, policy decisions have led to the deaths and serious illness of many, which could only then be contained by the long national lockdown of the country in order to halt terrible human loss and to regain some control over the health service. The most dramatic example of this was the reopening of indoor hospitality in December, when case numbers remained higher than targets, and against the advice of most experts. When the full devastation of this misstep became obvious in the form of the highest cases numbers per capita in the world, and roughly 2,000 additional deaths in a short period, there were claims, contrary to clear evidence, that “no one saw it coming”.

To avoid repeating these missteps, this discussion paper is founded on the precautionary principle. It seeks to discuss the predictable consequences for children and their wider communities of beginning the 2021-22 school year without following the clear advice of the World Health Organization to put measures in place to prevent and respond to transmission.

This paper acknowledges the entirely new context we find ourselves in, in Ireland - with the benefit of the vaccination of the vast majority of the adult population and continued successful rollout of vaccination to the teenage population, but also highlights the challenge posed by the increased transmissibility of the Delta variant, which appears to also have more serious health consequences for children, as discussed in more detail below.

The present landscape – what has changed?

Until now, children were protected by the measures that were employed to protect all of society. We are now entering a different phase of pandemic mitigation, where the majority of adults have been protected by vaccination, leading to the removal of public health protections for all. This has led to steeply rising case numbers, especially in younger people, who are ineligible for, or who have only recently become eligible for vaccination.



As a result, and for the first time in this pandemic, children are relatively unprotected from the virus. With the new school and third level education terms beginning in September, we will be gathering the largest unvaccinated proportion of our society indoors at a time where many of the protective public health measures in place have been relaxed or removed, and when those adults who have been vaccinated are being encouraged to relax, to go out, and to take up the “vaccine bonus”.

This reality, in combination with the increased transmissibility of the Delta variant, means that our children have never before been at more risk of infection and disease. We have never before had case numbers so high, while also having such comparatively light restrictions. The high case numbers are concentrated in the unvaccinated among us, which is predominantly younger people who are either ineligible or still awaiting vaccination. For children and young people, and the rest of society, the outcome of this change in our circumstance remains to be seen. But, if we apply evidence-based decision making and act now to minimise harm, rather than repeat the “trial and error” approach which has characterised much of the Government

response over the past 18 months, the risk of infection in our children can be reduced. The worst outcome would be, again, for our Government to fail to prepare when the risks are entirely foreseeable and the risk mitigation measures affordable.

- **The Delta Wave: Five major changes**

Five major changes characterise the context for decisions made now. Since March 2021, this context has changed due to a number of factors and is therefore different to any previous context in which we have assessed the safety of opening schools:

1. **The Delta variant of SARS-Cov-2 is now the dominant variant in Ireland.** This variant has a higher attack rate, meaning that one person infected with the Delta variant will pass the virus on to a larger number of people than someone infected with earlier variants. In a school setting, and in the absence of mitigations such as masks, where previous variants may have spread to a smaller number of children in a classroom, the Delta variant theoretically may spread to many or most exposed children. In an average Irish classroom of 24 children, this means the virus could in principle spread from a single infected child or teacher to many other children. Australian contact tracing on the Taringa outbreak⁶ demonstrates how that outbreak spread in and between schools. Emerging data from the USA show that a greater number of children are currently being hospitalised with COVID-19 than at any earlier time in the pandemic and suggests that the Delta variant causes more severe disease in children⁷, but this threat is not reflected anywhere obvious in the various pieces of advice from the Department of Education. In the US around 1.2% of children infected with COVID-19 are admitted to hospital⁸. It's not clear if the same proportion will apply here, but we should mitigate against, rather than accept that risk. It's unlikely that COVID-19 cases in children will swamp Irish hospitals, but severe cases could very easily exceed the 31 Irish paediatric ICUs and High Dependency Units, only 7 of which are free at the moment⁹.
2. **The increased presence of COVID-19 in the community.** The 7-day average as of the 15 August 2021 is approximately 1,750 cases. To put this number into relative context, we can look at the other times during the pandemic when schools opened:
 - On **Monday August 31st 2020** we opened the schools during our 2nd wave of the pandemic. There were 53 cases of COVID-19 in Ireland that day, and a 7 day rolling average of 99.3 cases. We didn't breach 300 cases until September 8th, and the 7 day average stayed under 300 until September 28th. This was with the original wild type 'Wuhan' SARS-CoV-2 virus.

- On **Wednesday January 6th 2021**, we decided not to open the schools during our 3rd wave. There were 7,386 cases of COVID-19 that day, a 7 day average of 4,428 cases, and the more transmissible Alpha variant (B.1.1.7) was becoming dominant. On the day that schools partially reopened (Monday 1st March, 2021), 687 cases were reported.
 - **Today**, our 7 day average of cases is over 1,700 cases and rising. The highly transmissible Delta variant is dominant, and we have yet to see how it behaves in school environments in Ireland (though there is evidence from other countries where schools are open and Delta is dominant).
 - As we enter **autumn**, scenarios modelled by NPHET indicate that we are vulnerable to peak at over 2,000 cases per day in September/October (optimistic scenario), 5,000 – 10,000 cases per day (central scenarios), or approaching 15,000 cases per day (pessimistic scenario). Given that we are now, in August, and on the 14th of August, we breached 2,000 cases it would appear that we are headed for, at least, the central scenario¹⁰.
3. **Long COVID.** The facts of long-COVID are gradually becoming known, to the point where the US President, Joe Biden, has referred to it as a disability¹¹. It is a multi-organ syndrome with diverse symptoms including fatigue, shortness of breath, nausea, gastrointestinal problems, palpitations, sleep disruption, and memory and concentration problems.

So far, one million people have reported long COVID symptoms in the UK, including at least 33,000 2 – 16 year olds. Worryingly, 400,000 people in the UK have reported Long COVID symptoms for over 12 months, including 9,000 children. No comparable Irish data exist, but we use data from the most reliable UK study, from the Office for National Statistics (ONS), which reports that about 11,000 children aged 2 to 11 (0.15% of the total), and 23,000 aged 12 to 16 (0.6% of the total) are affected by Long COVID in the UK ¹². In Ireland, which has had slightly lower cumulative COVID-19 infection rates, this can be estimated as just over **715 children aged 2 to 11, 1,400 aged 12 to 16, and 2,350 aged 12 to 18**, so far. A major outbreak of COVID-19 in young people, which is now underway, will change these figures very much for the worse.

4. **Child Hospitalisation.** Since the Delta wave began, hospitalisations due to COVID-19 have been steadily increasing in the UK. In mid-May, 10 children were being admitted with COVID-19 per day in England, rising to over 50 per day by late July. In the month of July, over one thousand children have been admitted to English hospitals with COVID-19. In the USA, based on data from 23 states, the American Academy of

Paediatrics estimates that between **0.9% and 1.9% of all child COVID-19 cases** result in hospitalization¹³. In Ireland, data on hospitalisation rates in children are not published, although the data do exist. The number of children with COVID-19 in the three Children's Health Hospitals (CHI), which will be an underestimate, is currently reported in a daily file¹⁴, and over the last month this has risen from 0 to 3. None are currently in intensive care. Over the first three waves of the pandemic a total of 300 Irish children have been admitted to hospital. COVID-19 generates two slightly different syndromes in children - one simply severe covid, and the other a multi-system inflammatory disease, which affects younger children, usually requires intensive care, and is clinically distinct¹⁵.

5. **Public health reality: we are nowhere near 'normal'**. There are still some protective measures in place which have a dampening effect on transmission. For example, people are still wearing masks in retail venues and on public transport and many still work from home. ISAG is concerned that as vaccine rates increase, and as the Government continue to offer a 'vaccine bonus' to those vaccinated, these final guards will be let down and transmission from vaccinated people to the unvaccinated population (including the under 12's, those with chronic illnesses who cannot be vaccinated, and the not-yet vaccinated 12-15 year old children) will rise even further. The Government is no longer testing the vaccinated parents of children who test positive, nor asking them to limit their movements. There is no evidence to support this change in policy, and in fact the evidence is that vaccinated individuals can transmit the infection to others¹⁶. The point of self-isolation was always to break chains of transmission, and so should be applied equally to vaccinated individuals.

Pandemic Narratives

COVID-19 policy, like many other policies, is driven by the stories we are told. Some of these stories are true and helpful, but others are not.

For example, one dominant narrative has been that vaccination programmes have broken the link between infection and hospitalisation and deaths. This narrative may be affecting the level of precautions being put in place in education institutions to protect child health and limit transmission into the community. In fact, recent data emerging from the USA, Canada and the UK is showing that this link is not broken, but only weakened. The threshold for future surges of hospitalisations and deaths has shifted, but it still exists.

Another dominant narrative, especially in Ireland and the UK, has been that "schools are safe" and that children do not suffer when infected with COVID-19. Neither of these narratives is true, as we have discussed earlier, but they serve as discursive and psychological justification

for inaction. Our purpose here is to expose these narratives as myths and clearly outline the actions that we need to take to avoid putting children at risk.

- **An Average School**

In order to visualise scenarios for this coming school Autumn and Winter term, think about your average local primary school, with no protective measures in place. For each protective measure in place, these transmission numbers will reduce:

- The average class size in Ireland in 2021 is approx. 24 children¹⁷.
- Therefore, a primary school with a Junior and Senior Infants and first to sixth classes, would hold 192 children.
- If 0.3 of the population is currently infectious, as is the case right now, then there is an 8 % chance that a given group of 30 people will include a person spreading the virus, and a 50 % chance that a group of 250 people will include at least one person spreading the virus. (i.e. a 40 % chance in a group of 192.)
- Credible modelling studies have indicated that, without proper mitigation measures, the majority of susceptible children in a school could become infected within 2 -3 months. Most of these infections can be prevented with masking, testing, isolation, and ventilation¹⁸.
- Approximately 1 in every 100 (+/-) children sick with COVID-19 in Ireland have been hospitalised with the original wild type virus and the B.1.1.7 or Alpha variant. (This may rise with Delta, now the dominant strain in Ireland)¹⁹. Therefore, over the long-term, perhaps 2 children from your average school will be hospitalised.
- 7-15% of these 192 children, (if all were unvaccinated and then infected), could suffer from Long Covid²⁰, leading to between 13 and 29 (+/-) children out of your single school population being left with serious health implications or potentially a long term disability²¹.

The outcomes we can avoid

The cost of the risk mitigation measures for schools, advised by experts such as Assistant Professor, Orla Hegarty, UCD²² and Professor John Wenger, UCC²³, are modest, perhaps around €10 per child. They are relatively low-tech and user-friendly. The cost of these public health measures is far lower than the financial cost to the State, to private employers, and to insurers of the likely outcomes of unmitigated transmission of COVID-19 in education buildings.

1. **The cost of Long Covid in children.** Along with the human cost of months and maybe longer of Long Covid in children, comes a financial cost to the family and to the community that supports that family through their taxes. A child with COVID-19 will

require a non-vulnerable parent or caregiver to care for them at home for the 2 weeks they are initially infected, meaning that that parent or caregiver is not working outside the home. Further support will be required should that child's symptoms continue beyond 4 weeks. For example, should that sick child's parent be a school teacher, the cost of covering that teacher caring for their child at home and quarantining afterwards will far outweigh the cost of protection measures which should be put in place in classrooms now.

2. **Orphanhood and caregiver deaths.** While we are often reminded that relatively few children will die from COVID-19, this ignores the numbers of children who have lost one or both parents or other caregivers, such as grandparents to the suppression only strategies followed in response to this novel virus outbreak²⁴. Increased transmission, including in and from schools will contribute to this detrimental outcome for children. A study published in The Lancet summarises: *"Orphanhood and caregiver deaths are a hidden pandemic resulting from COVID-19-associated deaths. Accelerating equitable vaccine delivery is key to prevention. Psychosocial and economic support can help families to nurture children bereft of caregivers and help to ensure that institutionalisation is avoided. These data show the need for an additional pillar of our response: prevent, detect, respond, and care for children."*
3. **Childcare costs.** For every even moderately sick child, one or more adults will have to provide care to that child and will not be at work, and even if they are vaccinated, as close highly exposed household contacts of an infected person, they will need to isolate themselves for the required period. Transmission in schools will lead to transmission in the community to both the vaccinated, to those for whom the vaccine is not effective and to the unvaccinated. This will lead to illness and death and to significant pressure on the hospital system going into the winter months.

Policy choices that will continue to put children at risk of harm

1. **Personal responsibility.** Making public health the personal responsibility of individuals puts children who cannot and should not carry these obligations to society at risk. Children are not in a position to refuse to go to an unsafe school building, or to insist that a window is opened, or that soap and hot water are in the shared toilets. Therefore, if the Departments of Education and Health do not put in place the affordable risk-reduction measures, children rely on parents and teachers to do so.
2. **Accepting high community case numbers.** In March 2021, the Tánaiste Leo Varadkar said it was "very hard to see" how it was possible to secure a rate lower than 500 cases per day, despite "the enormous efforts of the Irish people"²⁵. Many other countries were doing far better then. Today, other than an appeal to "personal responsibility,"

there is little effort to reduce rates from their current heights of 1500-2000 cases per day. This acceptance of high community transmission, and the refusal to resource its reduction to safer numbers, by itself makes communities, and therefore schools, unsafe.

3. **Transparency.** Until now, the Government's mantra in Ireland, as in other countries that chose a "Living with COVID-19" strategy, has been that "schools are safe". This mantra was supported by the failure to collect meaningful data on cases and source of transmission. Parents have largely relied over the past 18 months on word of mouth via social media (e.g., the "Alerting parents of outbreaks in schools Ireland" Facebook and Twitter accounts) to know when there has been a case in a class or family, who may have children in a number of school classes.
4. **Refusal to acknowledge that the vaccine alone cannot end this pandemic.** Evidence to date, from highly vaccinated countries such as Israel and Iceland shows that Delta is twice as transmissible than the original virus and that our present vaccines may only reduce transmission by about 50-60%. Even if everyone was vaccinated, (including all children), we would still be dealing with significant levels of illness, death and the need for restrictions such as lockdowns which have a disproportionate effect on the all lives, should the other public health protective measures required to keep numbers low are not kept, or put in place.
5. **The exclusion of the vulnerable.** The failure to date to adequately suppress or to eliminate this virus has left many immunocompromised or otherwise known-vulnerable children, (or those with vulnerable parents or family members) cocooned and excluded from in-person education. We have largely ignored the struggles of families with high risk children who are immune-compromised or have pre-existing conditions.
6. **The measure of last resort – lockdown and school closures.** This failure to adequately suppress or to eliminate this virus has also led to school and university buildings being closed for many months they would have been open in the 18 months of this pandemic. Despite the shift to online learning, these closures negatively impacted learning for almost all children, with children with additional needs and children from low-income backgrounds suffering the most severely negative impacts. School and university closures have had negative mental health impacts for both parents and children²⁶, and many third level students will leave their studies having had little meaningful in-person teaching or practical experience. If we do not put adequate measures in place now to protect the effect of the vaccine, we will experience further forced but preventable closures²⁷.

'Vaccine plus' strategy

Until now, communities in Ireland have had some functioning public health measures in place – (close contact tracing; mask wearing; travel quarantine measures; protections around indoor gathering; etc.). Each piece together forms a quilt of some protection for individuals and the containment of the transmission numbers for society as a whole. These measures limited the numbers of new cases and dampened the extent of transmission. Following the removal of these measures, we saw a jump from about 300 to 400 new cases per day in March 2021, to just over 2,000 new cases per day in August 2021, despite increased vaccination.

In August 2021, before the return to schools and the return home of holidaymakers, hospitals are already dealing with overcrowding described as the **“Worst hospital overcrowding' since pandemic began as 380 on trolleys”**²⁸. With many schools and third level²⁹ institutions starting again on the 1st September, and as we proceed again into winter, how has the government prepared in order to ensure both children and their educators are safe in their place of work and education? And how might an absence of adequate preparation impact these families and their communities and the health care system on which they depend?

As both the level of impact of vaccination on transmission and durability of vaccine effectiveness over time are uncertain, the outcomes are difficult to predict, but ISAG, as with many independent expert groups around the world, say that the precautionary principle should always be followed rather than a “wait and see” or an “autopsy epidemiology” approach. So, in the absence of certainty, what do we know that can inform our decisions? Both those we demand from the Government as being within their responsibility, and in the absence of a meaningful response, what we can do as citizens?

Vaccination for adolescents and younger children

A vaccine has been approved for use in adolescents, based on a further analysis of the original Pfizer-BioNtec vaccine trial. The risk and benefits of the vaccine have been weighed up by several groups, and found to favour vaccination³⁰. Vaccination is known to be effective against the Delta variant, though possibly a little less than against previous variants of the virus. While the risk of vaccinated people falling seriously ill, requiring hospital admission or dying is much less than that of otherwise similar, but unvaccinated, people, it is not zero. In addition there is evidence that vaccinated people can and do transmit the virus to others. The risk of long COVID following infection among vaccinated people is unclear. It does seem that vaccination can reduce the symptoms of Long COVID following infection in unvaccinated people. Vaccine uptake in Ireland is very high, and it is anticipated that many secondary school age children (aged 12 and over) will be vaccinated over August and September. At present it seems likely that no vaccine will be approved for primary school aged children until later this

year, although there are a number of studies in progress, no results are expected till September, and application for approval will presumably take some further time³¹.

Myocarditis occurs following COVID-19 infection³². This is relevant because myocarditis is a real side effect of COVID-19 vaccinations³³. It's not unheard of for vaccines to have similar effects to primary infection - it's the case, for example, for measles vaccine, but the case for vaccination depends on these risks being lower in those vaccinated, and on there being a real risk of children getting the disease. This US suggests that the risk of myocarditis, although low, is six times higher in children infected with COVID-19, than the risk in children following vaccination. It seems likely, in the absence of vaccination, almost every child will be infected eventually.

What we should do now

Public health is ultimately the responsibility of our governments. Where the government does not exercise its responsibility for the health of children and young people in educational buildings, are there measures which parents and teachers can take to ensure that school buildings are safe? Relative to both the human and financial cost of illness, the following protections are affordable (for some, but not all schools), relatively low-tech solutions:

1. **Functioning face masks.** Properly fitting FFP2 masks should be worn by all children and supplied by the Department of Education.
2. **Air Quality - CO₂ Monitoring and Ventilation.** Ventilation is an important part of the response to COVID-<https://www.energy.ca.gov/publications/2021/california-schools-healthy-air-plumbing-and-efficiency-ventilation-program19> and it means more than just opening windows. The Department of Education provides a webpage with a number of documents advising schools on ways of improving ventilation³⁴. Portable CO₂ monitors to monitor air quality will be funded for schools, but not enough to provide one per classroom. The level of CO₂ originally deemed acceptable by the Department (1400 to 1500 ppm) is regarded as very high, and not indicative of effective ventilation³⁵.

No suggestion is made that air filtration will be funded, and schools are given little assistance in choosing suitable units, beyond consulting with an engineer. It is instructive to compare the quality of the advice provided by the Irish department with the far more detailed, professional and actionable advice given, for example, by the UK Health and Safety Executive³⁶. Furthermore, if a classroom has a CO₂ monitor in place and the reading regularly rises above 800 parts per million, (the recommended limit to reduce the risk of virus transmission), what measures will be followed to improve ventilation in that classroom? Mechanical fans to assist in moving air to

windows and HEPA filtration systems which clean the air are affordable basic measures that should be in place prior to school rooms being filled with children.

3. **Testing, transparency, and supported isolation.** Given the transmissibility of Delta, all close contacts of an infected child (including vaccinated family members) should undergo testing for the virus. Infected children and their caregivers should be supported in isolating as required, including paid leave from work. Parents should be notified of cases in schools and should not have to rely on word of mouth and social media sharing of school cases in order to make decisions about the welfare of their children. Regular testing of school children is taking place in other jurisdictions and, for example, the SFI-funded Saliva Screen project (<https://salivascreen.org/>) offers the option of less invasive rapid regular PCR testing of children in a scalable manner³⁷.
4. **Data.** One major practical problem, which the pandemic has thrown into sharp relief, is the availability of data, both to the public and to the State. Irish data systems are old, and demonstrably inadequate, as was shown for CIDR last December, when it could not accommodate the numbers of COVID-19 cases occurring each day. Much vital data on COVID-19 has been withdrawn from the public domain, or is not being collected in the first place, as Parents United demonstrated for schools data ³⁸. The cost of trying to fight a pandemic blind will not be small. These issues of data quality and access should be remedied immediately.

What can parents and teachers do to make their schools as safe as they can, given that the Government has abdicated its responsibility to do so³⁹? They could take the initiative by taking checklists for schools from elsewhere (such as the New York⁴⁰ school system) and adapting these to the local situation. These address questions like the use of space and ventilation.

Governmental Responsibility

The Government's decision to take, or to abdicate, responsibility for public health will affect the life and health of unvaccinated children and young people gathering in buildings where education takes place, and many others -

- teachers and other adults working in those buildings;
- the families of those attending those buildings and those in contact with them;
- those who are medically vulnerable, or have a vulnerable family member;
- those in the wider community who are vaccinated but for whom the vaccine does not work because they are immunocompromised;
- those as yet unvaccinated;
- those vaccinated who will have breakthrough illness.

A public health crisis cannot be solved by calls for personal responsibility. Children (and to a large extent, their parents and guardians) cannot exercise personal responsibility in schools. Public Health is called “public” health for a reason – protecting the right to life and bodily integrity of child citizens and other children living in Ireland can only be done through public health and through health and safety measures. By way of analogy, we do not make children or their teachers responsible for the presence of fire extinguishers in schools.

It is unquestionably the State’s duty to provide direct support for comprehensive virus mitigation in schools. If, like so many other basic school requirements, it is left to schools or parent groups to raise funds to purchase the necessary protection measures, this will worsen the present significant inequalities between communities, both in education, and in the impact of the virus. It is never too late to do the right thing.

-END-

¹ The UK’s official COVID-19 advisory body has stated, “Measurements of elevated CO2 levels in indoor air are an effective method of identifying poor ventilation in multi-occupant spaces”. <https://www.gov.uk/government/publications/emg-role-of-ventilation-in-controlling-sars-cov-2-transmission-30-september-2020>

In California there is State legislation in place; “to ensure proper ventilation is maintained throughout the school year, all classrooms shall be equipped with a carbon dioxide monitor”. https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=20192000AB841

² <https://salivascreen.org/covid-19/>

³ [WHO Director-General’s introductory remarks at the press briefing with UNESCO and UNICEF](#)

⁴ Department of Education and Skills. 27 July, 2021 - Minister Foley confirms plans for full reopening of schools for the new school year [Internet]. Department of Education and Skills. [cited 2021 Aug 14]. Available from: <https://www.education.ie/en/Press-Events/Press-Releases/2021-press-releases/PR21-07-27.html>

⁵ [Schools are Australia’s new Delta battleground. How risky are they really?](#)

⁶ <https://twitter.com/dbRaevn/status/1422893529890578441>

⁷ Bortor G. Children hospitalized with COVID-19 in U.S. hits record number. Reuters [Internet]. 2021 Aug 15 [cited 2021 Aug 15]; Available from: <https://www.reuters.com/world/us/children-hospitalized-with-covid-19-us-hits-record-number-2021-08-14/>

⁸ American Academy of Pediatrics. Children and COVID-19: State Data Report [Internet]. USA: American Academy of Paediatrics; 2012 Aug [cited 2021 Aug 15] p. 32. Available from: <https://downloads.aap.org/AAP/PDF/AAP%20and%20CHA%20-%20Children%20and%20COVID-19%20State%20Data%20Report%208.5%20FINAL.pdf>

⁹ Health Services Executive. COVID-19 daily operations updates [Internet]. HSE.ie. [cited 2021 Aug 15]. Available from: <https://www.hse.ie/eng/services/news/newsfeatures/covid19-updates/coronavirus-daily-operations-updates.html>

¹⁰ Covid-19 cases top 2,000 for the first time since January as 229 people admitted to hospital <https://www.independent.ie/irish-news/covid-19-cases-top-2000-for-the-first-time-since-january-as-229-people-admitted-tohospital-40751452.html>

¹¹ <https://www.nbcnews.com/politics/white-house/biden-says-long-covid-could-qualify-disability-under-federal-law-n1275044>

¹² Prevalence of ongoing symptoms following coronavirus (COVID-19) infection in the UK - Office for National Statistics [Internet]. [cited 2021 Aug 6]. Available from: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/latest>

¹³ American Academy of Pediatrics. Children and COVID-19: State Data Report [Internet]. USA: American Academy of Paediatrics; 2012 Aug [cited 2021 Aug 15] p. 32. Available from: <https://downloads.aap.org/AAP/PDF/AAP%20and%20CHA%20-%20Children%20and%20COVID-19%20State%20Data%20Report%208.5%20FINAL.pdf>

¹⁴ Health Services Executive. COVID-19 daily operations updates [Internet]. HSE.ie. [cited 2021 Aug 15]. Available from: <https://www.hse.ie/eng/services/news/newsfeatures/covid19-updates/coronavirus-daily-operations-updates.html>

¹⁵ Feldstein LR, Tenforde MW, Friedman KG, Newhams M, Rose EB, Dapul H, et al. Characteristics and Outcomes of US Children and Adolescents With Multisystem Inflammatory Syndrome in Children (MIS-C) Compared With Severe Acute COVID-19. JAMA. 2021 Mar 16;325(11):1074–87.

¹⁶ [How do vaccinated people spread Delta? What the science says](#); New data was released by the CDC last week showing that vaccinated people infected with the delta variant carry viral loads similar to those of people who are unvaccinated. https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e2.htm?s_cid=mm7031e2_w

¹⁷ New figures published by the Department of Education show the average class size decreased from 24.1 students in 2019/20 to 23.3 in the school year which ended in June. Article dated 4 August 2021 <https://www.independent.ie/irish-news/news/primary-school-class-sizes-at-their-lowest-in-20-years-40734044.html>

¹⁸ [School-level COVID-19 Modeling Results for K-12 Hypothetical Scenarios](#)

¹⁹ (The HSE/HSPC have not published this data since the hack, although it is made available to NPHE, and so we refer to USA and UK data given that both countries have pursued “live with” suppression-only strategies, characterised by relatively limited use of harm mitigation measures, which have resulted in relatively high numbers of deaths and illness). It is a well known fact that children transmit COVID-19, and likely as much as adults when it comes to the Alpha and Delta variants. Thankfully, children are unlikely to die from COVID-19. In the USA only 300 deaths have been attributed to COVID-19 in children. But far from being passive vectors, children can also experience the detrimental health consequences of COVID-19, including hospitalization and long-COVID. Since the Delta wave began, hospitalisations due to COVID-19 have been steadily increasing in the UK. In mid-May, 10 children were being admitted with COVID-19 per day in England, rising to over 50 per day by late July. In the past month alone, 1,004 children have been admitted to English hospitals with COVID-19. In the USA, over 16,000 children have been hospitalized with COVID-19. Based on data from 23 states, the American Academy of Pediatrics estimates that between 0.1% and 1.9% of all child COVID-19 cases result in hospitalization

²⁰ <https://twitter.com/dgurdasani1/status/1422800835562647554?lang=en>

Twitter thread by Deepti Gurdasani @dgurdasani1, Senior Lecturer @QMUL Epidemiology, statistical genetics, machine learning, on the reporting of what is a heavily flawed study in the media to suggest that long COVID is rare in children.

²¹ The [World Health Organization](#) has recognized that covid-19 “can sometimes result in prolonged illness, even in young adults and children without underlying chronic medical conditions,” but efforts to characterize the illness so far have relied mostly on phone surveys, case studies and anecdotal evidence. A growing number of medical centers in the USA — Boston Children’s Hospital, Kennedy Krieger Institute in Baltimore, National Jewish Health in Denver and Norton Children’s Hospital in Louisville — are setting up multidisciplinary clinics to try to better understand and treat these patients. And a research project funded by the [National Institutes of Health](#) that is getting underway will explore the range of impacts COVID-19 has had on children. **[UK and here]**

²² https://data.oireachtas.ie/ie/oireachtas/committee/dail/33/joint_committee_on_health/submissions/2021/2021-05-19_opening-statement-orka-hegarty-associate-professor-school-of-architecture-ucd-member-of-the-expert-advisory-group-on-ventilation-and-covid-19_en.pdf

²³ <https://www.irishexaminer.com/news/arid-40354085.html> “Precautions against airborne spread of Covid-19 still not being taken- even in some hospitals”

²⁴ “The COVID-19 pandemic priorities have focused on prevention, detection, and response. Beyond morbidity and mortality, pandemics carry secondary impacts, such as children orphaned or bereft of their caregivers. Such children often face adverse consequences, including poverty, abuse, and institutionalisation. We provide estimates for the magnitude of this problem resulting from COVID-19 and describe the need for resource allocation”. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)01253-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01253-8/fulltext)

²⁵ <https://www.rte.ie/news/coronavirus/2021/0325/1206064-covid-vaccines/>

²⁶ [The Impact of Covid-19 School Closures on Children and Parents’ Mental Wellbeing](#)

²⁷ <https://kingsthintank.com/2021/04/05/the-impact-of-covid-19-school-closures-on-children-and-parents-mental-wellbeing/>;

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

²⁸ <https://www.irishexaminer.com/news/arid-40355735.html> **‘Worst hospital overcrowding’ since pandemic began as 380 on trolleys.**

²⁹ The return to face-to-face teaching will only succeed if the three basic pillars of pandemic control are followed for the fall. The concept behind this is called “Vaccinate-PLUS”. Matthias F. Schneider, Technical University of Dortmund. August 10, 2021 <https://covidactiongroup.net/three-pillars>

³⁰ Gurdasani D. Vaccinating adolescents in England: a risk-benefit analysis [Internet]. OSF Preprints; 2021 [cited 2021 Aug 6]. Available from: <https://osf.io/grzma/>

³¹ Edwards E. Covid vaccines for kids under 12 expected mid winter, FDA official says [Internet]. NBC News. [cited 2021 Aug 15]. Available from: <https://www.nbcnews.com/health/health-news/vaccines-kids-under-age-12-expected-mid-winter-fda-official-n1274057>

³² Singer ME, Taub IB, Kaelber DC. Risk of Myocarditis from COVID-19 Infection in People Under Age 20: A Population-Based Analysis. medRxiv. 2021 Jul 27;2021.07.23.21260998.

³³ Clinical Considerations: Myocarditis after mRNA COVID-19 Vaccines | CDC [Internet]. 2021 [cited 2021 Aug 15]. Available from: <https://www.cdc.gov/vaccines/covid-19/clinical-considerations/myocarditis.html>

Bozkurt B, Kamat I, Hotez PJ. Myocarditis With COVID-19 mRNA Vaccines. Circulation. 2021 Aug 10;144(6):471–84.

³⁴ Department of Education and Skills. Guidance on Ventilation in Schools [Internet]. [cited 2021 Aug 14]. Available from: <https://www.gov.ie/en/publication/ad236-guidance-on-ventilation-in-schools/>

³⁵ https://ambisense.net/case_studies/how-an-irish-school-is-using-smart-solutions-to-control-their-covid-19-risk-improve-the-health-wellbeing-of-students-staff/#lates-case-studies ; [CDC Covid-19 Ventilation in Buildings](#) “One potential target benchmark for good ventilation is CO2 readings below 800 parts per million (ppm). If the benchmark readings are above this level, reevaluate the ability to

increase outdoor air delivery. If unable to get below 800 ppm, increased reliance on enhanced air filtration (including portable HEPA air cleaners) will be necessary. Once the benchmark concentrations are established, take periodic measurements and compare them to the benchmarks. As long as the ventilation airflow is unchanged (outdoor air or total air) and the occupancy capacity is not increased, future portable CO₂ concentrations that are 110% of the benchmarks indicate a potential problem that should be investigated. Under the pandemic response, a pragmatic application of portable CO₂ measurement tools is a cost-effective approach to monitoring building ventilation.”

³⁶ UK Health and Safety Executive. Identifying poorly ventilated areas and using CO₂ monitors [Internet]. [cited 2021 Aug 14]. Available from: <https://www.hse.gov.uk/coronavirus/equipment-and-machinery/air-conditioning-and-ventilation/identifying-poorly-ventilated-areas.htm>

³⁷ <https://salivascreen.org/>

³⁸ <https://parentsutdireland.files.wordpress.com/2021/02/are-irish-schools-safe-during-the-covid-19-pandemic-parents-utd-ireland-report.pdf> ; Parents United Letter to Minister Foley:
<https://drive.google.com/file/d/1si1V6xxOqgRUajowtyYqjB3pURu3maiN/view>

³⁹ <https://www.tandfonline.com/doi/full/10.1080/02786826.2021.1877257> Testing mobile air purifiers in a school classroom: Reducing the airborne transmission risk for SARS-CoV-2 J. CurtiusORCID, M. Granzin & J. SchrodORCID

⁴⁰ <https://www.the74million.org/nyc-teachers-union-issues-new-school-safety-checklist-and-coronavirus-testing-demands-warns-nations-top-district-not-ready-to-reopen-on-schedule/> ; <https://www.nytimes.com/2021/08/02/us/covid-schools-delta-variant.html>