What researchers know about the risk of reopening schools

September 7 2020, by Nicola Gray, Didier Jourdan, Michael Marmot

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Across the world, over 1.5 billion children and young people were deprived of school during the first phase of the pandemic. We know this has had a negative effect on learning. And research carried out in England has shown that children in deprived areas have fallen furthest behind.

We know too that physical attendance at school has health benefits. Time spent with friends during adolescence helps brain development. Compulsory physical activity can protect against future chronic illnesses. And many young people benefit from school-based services such as free lunches and sanitary products.

Young people clearly benefit from being in school. But as many countries reopen, do the benefits of sending our children back outweigh the risks, and if so, what are the conditions of a safe return? Here, we assess what we know about the risks, and argue that the best means of mitigating them are locally driven control measures, based on national guidance.

Schools aren't inherently risky

Although incomplete, our knowledge about the transmission of the virus in schools is progressing rapidly. There are three key pieces of information to keep in mind.

Firstly, very few cases of transmission have been observed in schools. Public Health England (PHE) has analyzed data on around 1 million children who attended pre-school and primary school in England in June. It found 30 outbreaks, in which 70 children and 128 staff caught the virus, and noted that over two-thirds of the outbreaks were started by staff. Child-to-child transmission only accounted for two cases.

Similar studies in Ireland, France, Finland, Australia and Singapore show that child-to-child transmission in schools is rare.

Meanwhile, a European survey has shown no strong evidence of onward transmission to the families of students. Only one country (out of ten) reported a child infecting both parents. Conversely, there is strong evidence that a child is most likely to be infected by an adult in their

household.

A second key thing to keep in mind is that less than 5% of European COVID-19 cases are in under-18s. Children are also much less likely to be hospitalized, and the consequences of their illness are generally less serious. We mustn't overlook or trivialize serious cases in young people, but as they are uncommon we must avoid over-dramatizing the issue.

The third crucial factor is that schools are not separate from their context. Knowing the number of cases in the surrounding area gives a good indication of the risk of transmission happening in a school. If physical distancing and hygiene measures are applied rigorously and sensibly, schools are unlikely to be more risky than any other working or leisure environment with similar population numbers.

The direction of transmission is more likely to be from adult staff to children than the reverse, but as most of those children will remain asymptomatic, there is the risk of inadvertent infection. Adults in schools require protection, but must also protect. PHE recommends that staff must be "more vigilant" about limiting their exposure outside of school, and that "stringent infection control measures" between staff in school must be observed.

Local approaches best for limiting outbreaks

The risk of transmission in schools is therefore low, but not non-existent, and we should seek to minimize risk wherever we can. A recent article written by education and health experts with World Health Organization officials has proposed key elements for balancing reopening with safety.

At this stage of the pandemic, collective action at the local level is what's needed to limit transmission, while staying reactive to the evolution of the epidemic in that area. National guidance needs local interpretation,

because school teams organize their practices according to the local social, cultural and educational contexts. There are many differences between a rural primary school, a suburban college or a city center high school.

That said, in many European countries, the method for handling risk is beginning to standardize into a two-part approach. The first tactic is to limit the spread of the virus through barrier measures tailored to individual schools. Children and young people have the capacity to adopt these, and their participation is a condition for the barriers' effectiveness. Success requires long-term effort.

Widely agreed measures include:

- good room ventilation
- regular disinfection of premises
- increased hand washing
- limiting contacts in class, at the canteen and on school transport (for instance by staggered entrance and exit times, separate breaks, age-group bubbles)
- wearing a mask if social distancing is impossible (for older children and adults)
- protecting vulnerable teachers and pupils (for instance by allowing them to shield).

If needed in the case of an outbreak, step-by-step closure of facilities can follow. Schools need to be prepared to close in a controlled manner and to provide distance learning, to ensure that all students – especially the most vulnerable – continue to learn.

To allow this, it's necessary to recognize the expertise of education professionals, to trust them and to empower them to act. The success of locally led control measures will also rely on securing the involvement of

everyone relevant—students, parents, local decision-makers, and education and health professionals. When it comes to local closures, everyone needs to be capable of adapting their behavior.

Of course, our knowledge of the virus and the effectiveness of prevention methods is still limited. Any action will inevitably be taken in a context of uncertainty.

However, this pandemic could last for many more months, and impact on the learning, socialization and mental health of pupils must be taken into account. A positive and responsible local approach to the return to school by families, school teams and health professionals is our best hope for the ongoing success of our children and young people.

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