Easing lockdown for school children: why so contentious?

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10.1136/ebnurs-2020-103320

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The past week has seen an explosion of media commentary about whether children in the UK should go back to school. Since 'lockdown' (23 March 2020) began schools have been open to vulnerable children and young people, and to the children of 'key workers'. Right from the start there have been differing opinions about the necessity or wisdom of closing schools. Viner *et al*[1] produced a rapid systematic review that concludes that school closures have less impact on infection rate and mortality than other social distancing measures. Many countries have closed their schools for less time than the UK and have already started to reopen with several protective measures in place.[2]

Concerns about the long-term economic, social and mental impact of lockdown led to the generation of plans to 'get back to business'. This was conveyed to the population of the UK on 10 May by the UK prime minister, Boris Johnson. He announced a range of measures to gradually reduce the level of lockdown. This is in keeping with modelling undertaken by various groups, including a preprint (not peer-reviewed) modelling exercise by Zhang *et al*.[3]

Mr Johnson announced that there would be a phased return (in England) of some children to school from 1 June. There are no national guidelines as it is recognised that school have differences that require a flexible approach, but there are a broad set of principles relating to social distancing and hygiene.

Government ministers and teachers' unions have opposing views on the safety of reopening schools. In a joint statement nine unions representing teachers stated that they thought 1 June was too early to be safe.[4] They recognise that the opening of schools is a vital part of restarting the UK economy, but they have concerns about the safety and welfare of children and others.

Meanwhile, the education secretary, Gavin Williamson, spoke at a press conference on 16 May stating that scientific evidence backed their decision. Interestingly, much of his statement was not about the scientific evidence but setting out an emotive argument that school was essential for safe and happy children.

> There is a consequence to this, the longer that schools are closed the more that children miss out. Teachers know that there are children out there that have not spoken or played with another child their own age for the last two months. They know there are children from difficult or very unhappy homes for whom school is the happiest moment in their week, and it's also the safest place for them to be. The poorest children will be the ones who fall further behind if we keep school gates closed. This phased return is in line with what other European countries are doing.

There ensued an at times ill-tempered debate and a flurry of tweets and news articles identifying problems in enacting the government plan and the illogical nature of Williamson's statement. The Institute for Fiscal Studies has produced a briefing note on children's experiences of learning during lockdown.[5] This is being widely cited as a rationale for reopening schools because children from vulnerable backgrounds are disproportionately affected by not being able to attend school. This has caused concern about the attainment gap, but as Quinn[6] points out fewer children from disadvantaged backgrounds are likely to return to school than those from more affluent backgrounds.

Government ministers and spokespeople reiterated that scientific evidence and observation of other European countries where schools had reopened demonstrated their decision was the correct one. However, there were no links provided to the scientific evidence and unions were quick to seize on this (eg, NASUWT[7]).

The chief scientific advisor to the Department for Education, Osama Rahman, made a statement in a parliamentary science and technology committee meeting on 13 May that:

> There is a low degree of confidence in evidence that [children] might transmit it less.

Carol Monaghan, the Scottish National Party education spokesperson, replied:

> We're putting together hundreds of potential vectors that can then go on and transmit. Is that correct?

Osama Rahman responded:

> Possibly, depending on school sizes.

His final statement contains layers of complexity but can be interpreted simply as 'we don't know'. This provoked a great deal of disquiet. Rahman had already stated that the Scientific Advisory Group for Emergencies (SAGE) was collecting and considering evidence that was new and emerging, and that confidence was low in the evidence relating to transmission because there was very little evidence.[8] However, this normal scientific caution in the evidence base was not discussed, and therefore it was assumed that low or moderate confidence in the evidence means a high-risk strategy is being mooted.

There appear to be two major concerns about lifting the lockdown for children. First is the risk to children of developing coronavirus disease. The second is the risk to others of children transmitting coronavirus disease, either while being symptomatic or asymptomatic. Here are some of the available evidence.

Morbidity and mortality in children from coronavirus disease

Children appear to be less likely to acquire coronavirus disease in various nations.[9–11] Barton *et al*[12] found that children account for 1.9% of confirmed cases (data collected from government websites and publications). Of these 8113 paediatric cases, 14% required hospital admission. The admission rate to critical care was 2.2% of confirmed cases (7.2% of admitted children). Death

was reported in 15 cases (0.18%). This adds to other evidence suggesting that children are at a relatively low risk from the virus, with other estimates coming in at around 0.01%.[13 14] This is likely to be because they appear to have a stronger immune response to the virus.[15]

There are concerns that children who have been infected with the virus can develop a postviral inflammatory reaction (Kawasaki disease) and this can be severe,[16] but the research evidence for this is not well developed yet.

Transmission by children

Children can be asymptomatic and test positive for COVID-19, and in the absence of effective community testing it will be impossible to know if they are carrying the virus. Children also can have normal or abnormal signs (eg, chest imaging) when they have tested positive.[17] In short, it is difficult to determine without much more extensive testing if a child can transmit the infection.

Arav *et al*[18] found that the contact route was much more important than the airborne route, which they concluded had a negligible contribution. They suggest protective measures would therefore be good hand hygiene, careful cleaning and avoiding physical contact.

Given that there are quite low numbers of symptomatic cases and an unknown quantity of asymptomatic cases, it is very difficult to determine whether children are a significant vector for the disease. Studies cited by the Royal College of Paediatrics and Child Health that explored family clusters of infection suggest that the child was unlikely to be the index case.

The risk

This evidence suggests that there is a case for reopening schools to limited numbers of pupils—the risk to pupils and the adults they come into contact with seems to be small, and the potential gains for children may outweigh them. There is a big proviso with this however, and that is that the overall incidence of COVID-19 has fallen below specified threshold. This is quite a contentious issue and depends on us meeting the five key tests for easing lockdown.

- Making sure the National Health Service can cope.
- A sustained and consistent fall in the daily death rate.
- Rate of infection decreasing to manageable levels.
- Ensuring that personal protective equipment supply can meet demand.
- Being confident that any adjustments would not risk a second peak.

These conditions are open to interpretation, and there appears to be a lack of trust by the public and by professionals from education and health in the information that the government and their scientific advisors are sharing. An example of this is a group of scientists who have come together to challenge the government about their decision-making.[19] The concern about whether the evidence and advice that we are given are biased in any way has also been increased by concerns that a government advisor (Dominic Cummings) has attended what were supposed to be politically independent meetings of the SAGE.

Scientific evidence continues to emerge, but weighing up the risks and benefits is not easy. Decisions about whether to reopen schools are taken on a national level with a distance from personal concerns and fears. Individuals who are making decisions often rely on media translations of the evidence, and there is a level of mistrust in politicians and the media.[20] Individuals are often irrational in their risk perception and management (eg, continuing to smoke or drink alcohol despite strong scientific evidence about the risk).[21 22]

Overall, we are information-poor and opinion-rich. It is a difficult path to navigate. The debate about whether the benefits outweigh the risks of returning to school reminds me of the post-Wakefield Measles Mumps and Rubella vaccination situation. Parents were being asked to believe that MMR was a safe vaccine in the face of a massive and emotive campaign that promoted the 'risk' of having the vaccine above all else. This situation is even more complex than that as we have increased access to opinion and difficulty in understanding if or how much that information is biased. It is no wonder that decision-making is difficult. It is likely that evidence will continue to emerge and gradually the choice will become easier to make. For now, however, we can understand the difficulties that parents, teachers and councils face.

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Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Commissioned; internally peer reviewed.

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