Urgent need to develop evidence-based COVID-19 recommendations for primary schools

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Much has been learnt about the epidemiology of SARS-CoV-2 since December 2019. Children are not superspreaders of SARS-CoV-2.[1] They appear to have far lower rates of infection and lower rates of transmission compared with adults, especially young children below 10–14 years of age.[2–4] However, many of these data need to be interpreted with caution because they were collected early in the pandemic, when children had limited exposure to SARS-CoV-2 due to the introduction of national lockdowns and closure of schools. Encouragingly, more recent data collected following the reopening of schools in September suggest that rates of SARS-CoV-2 in children remain low compared with adults, even in areas with increasingly high prevalence (figure 1).

Schools in most countries across Europe were closed in March 2020 at the start of the COVID-19 pandemic. However, it is now recognised that the negative impact on children from not attending school far outweighed any benefits in terms of reducing transmission of SARS-CoV-2 at population level.[5] Not only does missed schooling impact on the long-term educational prospects, it also exposes children to significant harm in terms of safeguarding and abuse,[6] emotional and psychological health[7] and child poverty. For these reasons, despite most countries across Europe deciding to close schools at the start of the pandemic, there was a huge appetite for reopening them in September. However, to avoid school-based SARS-CoV-2 outbreaks in educational settings, which would generate considerable political and societal pressure to close schools, governments have put measures in place to minimise the risk of transmission in educational settings. These recommendations provide guidance about the use of face coverings by children and teachers, indications for isolation of symptomatic children and members of their families, as well as isolation of close contacts of confirmed cases in educational settings.

However, it is often unclear whether these recommendations are based on scientific evidence. One would assume that if they were evidence based, there would be relatively little variation in practice between European countries, although factors such as population density and rates of SARS-CoV-2 prevalence could justify some variation. In addition, an evidence-based approach would likely recommend different approaches in primary school settings compared with children in secondary school settings, due to the difference in risk of infection and transmission in these age groups. Unfortunately, a concerning picture emerges when the current recommendations for primary schools across Europe are compared (figure 2).

Not only is there wide variation in recommendations across Europe, surprisingly few countries have implemented an approach that promotes upscaling or downscaling of their primary school recommendations in line with local prevalence. In addition, none of these countries suggest different measures for primary schools compared with secondary schools, except in the use of face covering and approaches to contact tracing.

Our concern is that children in primary schools will disproportionately experience harm if evidence-based recommendations that acknowledge the differences in risk of SARS-CoV-2 transmission between young children compared with older children are not urgently implemented. It is well known that young children experience frequent respiratory tract infections each winter, estimated at eight per year in preschool settings and four per year in primary school aged children.[8] As there is significant overlap in the symptoms of SARS-CoV-2 and other viral pathogens in children, SARS-CoV-2 is often indistinguishable from non-SARS-CoV-2 respiratory tract pathogens without testing. If testing is difficult to access or slow, young children will inevitably miss significant quantities of schooling this winter. In addition, the recommendation in some countries for the entire family of a symptomatic child to isolate while awaiting their test results will limit parents' ability to work and siblings' freedom to attend school.

We suggest that governments adopt a more pragmatic, evidence-based approach to primary schools, in which the unintended consequences of excessively risk-averse approaches are recognised. The default position for primary schools

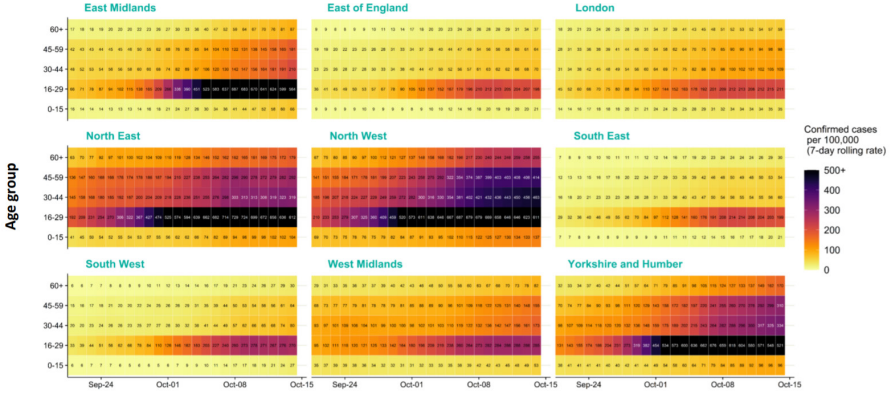

Figure 1 COVID-19 positive case heat maps by age group and region – England data. Provided by public health England outbreak surveillance team.

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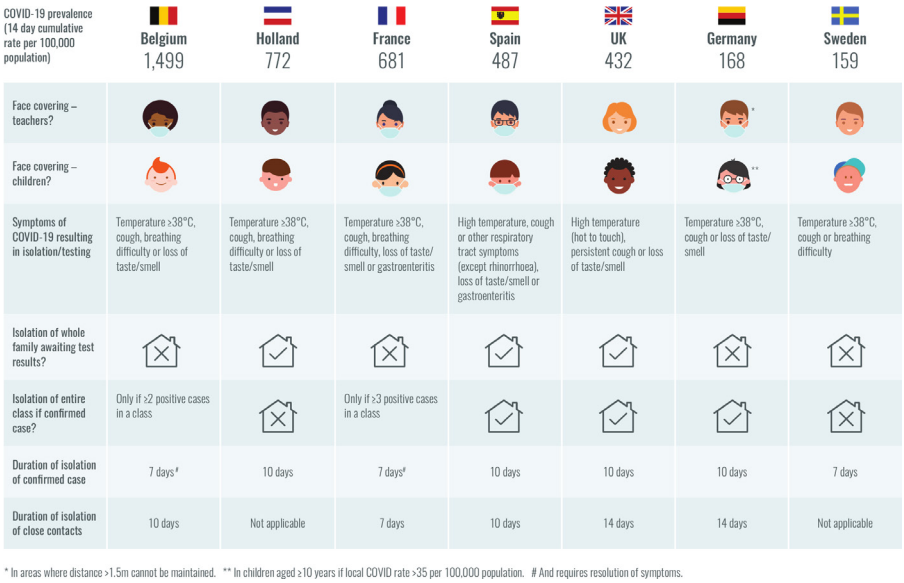

Figure 2 Recommendations in primary school settings across Europe (recommendations and prevalence data as of 29/10/20).

should be the implementation of less restrictive infection control requirements, in which young children are not made to wear face coverings, entire bubbles are not made to isolate following a single case and the entire family is not made to isolate awaiting the child's test results. We also recommend that when validated point-of-care saliva tests are available, they should be prioritised for use in school settings to minimise disruption to education. However, it is appropriate to escalate measures if local prevalence rises significantly, including reinforcing communications about social distancing and hand hygiene for both staff and pupils, imposing face covering for teachers and improving access to point of care testing. Reducing transmission between teachers or from teachers to pupils should be prioritised as soon as rates of SARS-CoV-2 begin rising, as an infected teacher may result in an entire bubble or school year being isolated. Future vaccines should prioritise teachers over children in primary schools. However, apart from in the event of sustained transmission of SARS-CoV-2 within a school, we do not feel that closure of primary schools can ever be justified.

One of the challenges in making any national decisions about SARS-CoV-2 is balancing the needs of the population against those of individuals. Although primary schools are extremely unlikely to be the driver for SARS-CoV-2 transmission in the community, there is a risk that a child infected at school could potentially infect a vulnerable relative at home. Rather than imposing excessively risk-averse measures on all primary school children, a more individualised approach could be adopted for children with extremely vulnerable relatives within their household, including them wearing face covering in communal settings, recommending isolation in the event of any positive cases within their bubble and having a lower threshold for testing if they develop symptoms. Vaccination should also be prioritised for these children. Shielding of extremely vulnerable individuals may also need to be considered if prevalence rises considerably.

CONCLUSION

Implementation of evidence-based recommendations for primary school is a priority for all governments to avoid young children unnecessarily missing significant quantities of schooling this winter, along with a knock-on effect on their families. The wide variation in recommendations across Europe suggests that this homogeneity of approach is some way off. Parents and teachers need to understand that new evidence and transmission rates will continually be reviewed and recommendations will change if required. Only with this level of transparency will we be able to keep schools open this winter while maintaining the trust of parents and the whole of society as rates rise across Europe.

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