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School-based COVID-19 vaccination programmes: An equitable strategy to reduce the impact of COVID-19 on children and their families

Alexandra Peebles,[a] Shannon E. MacDonald,[b,c] and Nicole E. Basta[a]*

[a]Department of Epidemiology, Biostatistics and Occupational Health, School of Population and Global Health, McGill University, Montreal, QC, Canada
[b]Faculty of Nursing, University of Alberta, Edmonton, AB, Canada
[c]School of Public Health, University of Alberta, Edmonton, AB, Canada

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The COVID-19 pandemic has been detrimental to the physical, mental, social, and economic well-being of children and their families. While evidence suggests that children are less vulnerable to SARS-CoV-2 than adults, rates of infection, illness, hospitalisation, and death among children have increased since the emergence of Omicron. In the United States to date, estimates suggest over 75% of children have been infected with SARS-CoV-2,[1] and reinfections are becoming increasingly common with the emergence of new variants and subvariants. High incidence has translated into significant increases in hospitalisations, with rates among children of all ages four times higher during the Omicron peak compared to the Delta peak.[2]

Currently, estimates suggest that 25% of children infected develop persistent symptoms, which can occur even among those experiencing mild acute infection.[3] Globally, 1.6 billion children have suffered extensive and ongoing disruptions in their education since the onset of the pandemic, and over ten million have experienced the death of a caregiver.[4,5]

At this stage in the pandemic, communities need to consider how best to protect children against the ongoing impacts of the pandemic. COVID-19 vaccination, approved for use among children in most countries of the Americas, is the safest and most expeditious approach to preventing severe disease and reducing the risk of transmission. Multiple studies have demonstrated the effectiveness of COVID-19 vaccination on reducing the risk of hospitalisation among vaccinated compared to unvaccinated children.[2] While pandemic mitigation measures vary widely, most pandemic control measures, such as masks, effective ventilation, and routine testing have been applied inconsistently, removed altogether, or were never implemented at all. Thus, vaccination is one of the most important tools currently available to reduce the burden of COVID-19 among eligible children.

In countries where COVID-19 vaccines are authorized for school-aged children, uptake among children remains the lowest of any eligible age group, even with abundant supply.[6] For instance, by July 2022, vaccine coverage was 55% among 0-17 year-olds in Peru, and 44% among 5-11 year-olds in Canada, while coverage for older age groups in both countries exceeded 83%.[6] Low vaccination coverage among children leaves many vulnerable to preventable, severe disease and has the potential to compound health disparities and exacerbate the already inequitable burden of COVID-19 among people from marginalized groups. Targeted public health efforts are needed to increase vaccination uptake among children and should be designed and implemented using an equity lens to ensure these policies meet the needs of all children, especially those at highest risk.

School-based vaccination programmes (SBVPs) are an efficient and equitable approach to vaccinating children and should be incorporated into community-based strategies to prevent COVID-19. SBVPs offer numerous advantages for vaccine delivery by eliminating many logistical barriers, including reducing travel and time demands, thereby increasing accessibility.

When implemented, SBVPs have been instrumental in increasing uptake among adolescents for multiple routinely recommended vaccines, including meningococcal, hepatitis B, and HPV vaccines. For example, when school-based HPV vaccines were offered in Calgary, Canada, vaccination completion rates were 75% for those with access to the SBVP versus 36% for those without.[7] Moreover, SBVPs can improve equity in vaccine access for children experiencing sociodemographic disadvantages.[7] These programmes have also been shown to be acceptable to parents; a study of parental perspectives on influenza vaccination found that three-fourths would have their child vaccinated at school if the vaccine were free, including the majority of parents who did not plan to vaccinate their child in the absence of this option.[8]

COVID-19 SBVPs have been implemented in multiple countries including Argentina, Canada, Costa Rica,

*Corresponding author at: Address: 2001 McGill College, Suite 1200, Montreal, QC H3A 1G1, Canada.
E-mail address: nicole.basta@mcgill.ca (N.E. Basta).

Colombia, Guatemala, and Panama, and can play an important role in improving vaccine coverage. When a COVID-19 SBVP was implemented in more than three dozen high schools in Québec, Canada, first dose coverage increased from 30.6% to 81.5% within just twelve days of the programme's launch.[9]

Parental concerns about vaccine safety further contribute to low COVID-19 vaccine uptake among children.[10] SBVPs can not only make vaccines more widely accessible, but can also boost vaccine acceptability by normalising vaccination and providing access to trusted sources of information via school nurses or other officials, to meaningfully engage parents and address concerns.

School-based vaccination programmes have great potential to increase COVID-19 vaccine uptake among students, thereby mitigating the pandemic's devastating effects on children and their families. These programmes are also essential to reducing inequities experienced by those from marginalized groups. Lessons learned from prior childhood vaccination campaigns should be urgently applied to COVID-19 vaccination to ensure that schools are prepared and equipped to lead vaccination efforts as soon as possible.

Contributors

AP: conceptualization; writing - original draft and writing - review and editing
NEB: conceptualization; writing - original draft; writing - review and editing; supervision; funding acquisition
SM: writing - original draft and writing - review and editing

Declaration of interests

The authors have no conflicts of interest to declare.

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