

## Too soon to lift mask mandates for most elementary schools in US, study finds

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Before lifting mask mandates in elementary schools in the U.S., local COVID-19 case rates should be far below current rates to avoid the risk of increased transmission among students, staff, and families, according



to a study led by researchers at Harvard T.H. Chan School of Public Health and Massachusetts General Hospital (MGH).

Their work was published online on February 14, 2022, in *JAMA Network Open*.

"It is critical that communities have a conversation about their goals for in-school mitigation measures," said Andrea Ciaranello, MD, investigator in the department of Infectious Diseases at MGH and senior author of the paper. "Do they want to prevent all in-school transmissions? Or do they want to keep the number of cases among students, staff, and families low enough that no one is likely to be hospitalized? Or do they want to minimize absences due to isolation and quarantine so students could take advantage of in-person learning, a goal which also requires keeping overall cases low? These are all valid goals, and once they are clearly articulated, we can use a systematic, mathematical approach to estimate the level of mitigation needed to meet them."

About 37 million students attend elementary school in the U.S., according to the National Center for Education Statistics, and little information exists to help school decision-makers navigate when to lift mask mandates and when to reinstate them, if necessary. The researchers used model-based simulations to quantify how changes in mitigation measures like masking might impact COVID-19 transmission among students, teachers, staff, and their families. The results indicated that the appropriate "off-ramps" for lifting mitigations and "on-ramps" for instituting mitigations vary widely based on the goals that school policymakers want to achieve, but that in order to meet a range of reasonable goals, local case rates will generally need to be far below those seen during the current wave of the pandemic before unmasking.

For example, in an elementary school in which 25% of students and 70%



of teachers are vaccinated, the study found that decision-makers should only remove masks when the local COVID-19 case rate is below 14 cases per 100,000 per day, if the aim is to limit the number of additional cases to less than 10 per month. If vaccination coverage increased to 90% among both students and teachers, decision-makers could remove masks when the local case rate was higher than 50 cases per 100,000 per day and still achieve the same goal,

The study authors found that several factors could change these case rate cutoffs. In general, increasing vaccination rates in students, teachers, and staff, or instituting weekly screening would allow schools to remove masks even when there are higher rates of community transmission.

Although the study focused on the Delta variant, lead author John Giardina noted that the decision framework will still be useful to school decision-makers dealing with other variants.

"This study emphasizes that it is important for schools to set clear objectives for what they want to achieve from their policies around masks and other mitigation measures," said Giardina, a Ph.D. candidate in <a href="health policy">health policy</a> in the Center for Health Decision Science at Harvard Chan School. "Having data-driven metrics about when we want to take off masks or add them back on can help clarify the decision-making process, and make sure policy decisions both align with the goals of a community and are responsive to the ever-shifting dynamics of this pandemic."

**More information:** John Giardina et al, Model-Estimated Association Between Simulated US Elementary School–Related SARS-CoV-2 Transmission, Mitigation Interventions, and Vaccine Coverage Across Local Incidence Levels, *JAMA Network Open* (2022). DOI: 10.1001/jamanetworkopen.2021.47827



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