Health Equity, Schooling Hesitancy, and the Social Determinants of Learning

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At least 25 million K-12 students in the U.S.—disproportionately children of color from low-income families—have been physically out of school for a full year due to the COVID-19 pandemic. These children are at risk of significant academic, social, mental, and physical harm now and in the long-term. We must determine how to help all students gain access to safe, in-person schooling. In this interdisciplinary Viewpoint, we review the literature about the association between school reopening and COVID-19 transmission rates, and about the political, social, and environmental conditions that shape families' and teachers' choices to return to in-person schooling. Even though schools can safely be opened with appropriate mitigation measures, we find four reasons for schooling hesitancy: high community transmission rates; the Trump administration's politicization of school re-openings in Summer 2020; long-term histories of mutual mistrust and racialized disinvestment in urban districts; and rational calculation about vulnerability due to the social determinants of health that have led Black and Latinx parents disproportionately to keep their children at home and White families disproportionately to send their children to school. Given the deep interconnections between the social determinants of health and of learning, and between schooling hesitancy and community vulnerability, stark inequities in in-person schooling access and take-up are likely to persist. In addition to ramping up safe and

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Abstract

At least 25 million K-12 students in the U.S.—disproportionately children of color from low-income families—have been physically out of school for a full year due to the COVID-19 pandemic. These children are at risk of significant academic, social, mental, and physical harm now and in the long-term; it is thus essential that all students gain access to safe, in-person schooling. We review the literature about the association between school reopening and COVID-19 transmission rates, and about the political, social, and environmental conditions that shape families' and teachers' choices to return to in-person schooling. Even though schools can safely be opened with appropriate mitigation measures, we find four reasons for schooling hesitancy: high community transmission rates; the Trump administration's politicization of school re-openings in Summer 2020; long-term histories of mutual mistrust and racialized disinvestment in urban districts; and rational calculation about vulnerability due to the social determinants of health that have led Black and Latinx parents disproportionately to keep their children at home and White families disproportionately to send their children to school. Given the deep interconnections between the social determinants of health and of learning, and between schooling hesitancy and community vulnerability, stark inequities in in-person schooling access and take-up are likely to persist. We recommend that urban school districts invest in scientifically-based facilities upgrades, onsite COVID testing, and increased nursing, counseling, and social work staffing. They must also invest time in humble listening so as to understand and address the causes of parents' schooling hesitancy. In addition to ramping up safe and speedy school reopening now, we must make a long-term commitment to supporting schools as both sites of and contributors to public health, especially in historically marginalized communities.

Introduction

Across the United States, at least 25 million elementary- and secondary-school-age children have been physically out of school for 13 months straight--with no end to remote "learning" in sight for many of these students.[1] Dozens of the nation's largest districts, including Los Angeles Unified (serving 650,000 students), Chicago Public Schools (355,000 students), and Puerto Rico (292,000 students), remained entirely or mostly closed from March 2020 through March 2021 and are even now opening school buildings only for younger students. Urban districts that are offering in-person education have significant numbers of students choosing to learn from home rather than returning to the physical classroom. Among the 1.1 million students served by New York City's public schools, for instance, about 700,000 remain at home (or in shelters) rather than attending in-person; in Chicago Public Schools, similarly, only 30% of students who are eligible for in-person schooling have chosen to return.[2] Even worse, 10-20% of students in some urban districts--amounting to an estimated 1 to 3 million children nationwide--have simply been "lost" by school officials.[3] They have neither officially unenrolled, nor shown up in person, nor logged in to remote school in recent months.

Children who have had no in-person schooling in the past year are disproportionately low-income and students of color. As of December 2020, 64% of low-income students were attending school solely via computer, while 52% of high-income students were attending school in person at least some of the time.[1] Black (66%) and Hispanic (64%) students were almost twice as likely as White (34%) students to be fully remote, and were also twice as likely as White students who are also remote to have no live access to a teacher.[1,4] Stark disparities persist; as of late March 2021, just 2% of majority-White districts offered no in-person schooling while 18% of majority-black districts and 24% of majority-Hispanic districts remained totally remote.[5]

Furthermore, within many districts that offer parents a choice, children from wealthier and Whiter neighborhoods have been resuming in-person schooling at significantly higher rates than children from lower-income neighborhoods and communities of color. In Washington, D.C., Public Schools, for instance, barely 1% of the seats newly-available for fourth-quarter in-person learning were in the two highest-poverty wards; the lowest-poverty ward, by contrast, received 42% of new in-person seats.[6]

Children have suffered numerous hardships as a result of being physically out of school, including attenuated academic learning and socioemotional development; academic and social regression; food insecurity; increased exposure to family stress; increased risk of depression, anxiety, isolation, and suicidality; reduced access to social, clinical, and therapeutic services; separation from peers and additional caring adults; increased vulnerability to domestic abuse; and reductions in overall wellbeing.[4,7–10] Although children of all backgrounds face these harms, they have also been spread inequitably, with English Language Learners, students with disabilities, children from low-income families, homeless children, and children of color facing higher risk of suffering both more intense versions of, and a greater total number of, these hardships.[4,11,12] It is likely that these real-time traumas will also have long-term effects on many children, and that these will also be inequitably distributed.[9] The social determinants of learning are tightly tied to the social determinants of health; they rise and fall together.

What do we know about school safety?

While inequities in school access and the effects of school closures are evident worldwide, the United States is alone among high-income countries for having the majority of its children excluded from in-person schooling for the entire past year.[10,13] This is because most countries

4

prioritized school re-openings, particularly as scientific evidence accumulated around the world that schools could reopen safely when infection controls are in place.[11,14]

The CDC has compiled a comprehensive science brief on the current state of knowledge regarding transmission in K-12 schools, drawing on studies in the U.S., Switzerland, Australia, U.K., Norway, Germany, and Israel, amongst others.[15] Evaluating the full body of evidence, CDC concludes that while high levels of community spread influence the risk in schools due to the greater likelihood of a case being introduced, the risk of within-school transmission can be limited with strict and layered risk reduction measures in place.

For example, in the U.S., Duke University researchers examined nearly 100,000 students and staff over nine weeks of in-person learning in schools and reported that within-school transmission was "extremely rare," with zero cases of student to teacher transmission observed.[16] Infection control measures included mask wearing, social distancing, and daily symptom screening; some schools also reported ventilation improvements, although actual ventilation rates were not formally assessed.

Two studies conducted during periods of high community spread show similar low risk of within-school transmission when infection control measures are in place. A study by Johns Hopkins researchers combined over 500,000 responses from the Facebook Covid-19 Symptom Survey with county-level case data. They reported that in-person schooling was associated with greater within-home transmission, but this effect "largely disappeared" when at least seven controls were in place, and there was a "complete absence of increased risk" associated with in-person schooling when 10 controls were in place.[17] A study by CDC looked at transmission rates in schools in Wisconsin from August 31, 2020, through November 29, 2020, where the primary mitigation measure was mask wearing. They reported that Covid-19 incidence among staff and

students was lower than the surrounding community (3,453 versus 5,466 per 100,000), and only seven of 191 cases identified were linked with in-school spread.[18]

There is also evidence that in-person schooling does not influence spread within the community. CDC examined case data from March through December 2020, and reported that COVID-19 incidence among the general population in counties where K–12 schools offer in-person education (401.2 per 100,000) was similar to that in counties offering only virtual/online education (418.2 per 100,000).[19] And a review by the Technical Advisory Group (TAG) for the World Health Organization European Region concluded in April 2021 that, "even with the wider spread of more infectious variants, there is no evidence that schools contribute in a major way to community transmission."[20]

Causes of schooling hesitancy in the U.S.

Given the robust evidence that in-person schooling can be safe with the right precautions in place, why have millions of children remained at home in the United States? We identify four key reasons for schooling hesitancy.

First, misplaced political choices to keep gyms, restaurants, and other comparatively high-transmission venues open have exacerbated community transmission rates to frighteningly high levels in many places, and reinforced the (sometimes accurate) perception that it is unsafe to open schools. As governors continue to roll back mask mandates, capacity restrictions in restaurants and gyms, and other mitigation strategies this spring even as more virulent and transmissible SARS-CoV-2 variants are spreading throughout the United States, community transmission rates are likely to jump again.[21]

6

Relatedly, the CDC's February 2021 school reopening guidelines heightened people's

confusion and concerns about community spread by recommending that closed schools remain

closed in communities with "substantial" or "high transmission," which it defined as being 50 or

more cases per 100,000 per week.[22] This restrictive metric placed 90% of all communities above

the threshold at the time the guidelines were released, despite the fact that community spread

metrics do not predict within-school transmission when sufficient controls are in place.[16,17,23] The

CDC's guidelines' continued promotion through mid-March 2021 of six-foot distancing to the

"greatest extent possible" also restricted schools' capacities to open fully due to space and

staffing constraints.[22] Districts that have chosen to follow the CDC guidance precisely thus

ratcheted back reopening plans, keeping schools closed or at best hybrid even when case counts

are low.[24–26]

CDC updated and revised its guidance shortly thereafter in March 2021, which may have

further added to the confusion and distrust.[27] The revised guidance now recommends three-foot

distancing in elementary schools for student to student interaction regardless of level of

community spread and when other control measures are in place.[28] For middle and high school,

CDC also recommends three-foot distancing for students, with the one exception being for areas

with the highest levels of community spread and where cohorting is not possible.

Second, the politicization of school re-openings last summer by the Trump administration

led left-leaning states, cities, districts, parents, and teachers' unions to mistrust federal guidance,

keep schools closed, and keep children out of school buildings that were open. As of June 2020,

there was broad, bipartisan consensus among policy makers, educators, and parents that

everything should be done to help schools reopen at least for younger children in time for the

2020-21 school year. But in early July, President Trump and Secretary of Education Betsy

DeVos each declared that schools should be ordered to open and challenged the CDC's school safety guidelines as too strict.[29,30] Soon after, the CDC allowed the White House to edit and release a substantially weaker set of guidelines that came under immediate critical scrutiny by scientists and public health officials.[31]

By late July 2020, therefore, urban districts, teachers' unions, many Democratic mayors and governors, and parents in these communities had turned against reopening except under highly stringent conditions. This opposition remained strong throughout the fall, particularly as community transmission skyrocketed. As a result, in-person school attendance remains highly partisan, and large cities and districts—which educate over one-fifth of all U.S. school children and which are almost uniformly Democratic-leaning—remain disproportionately closed. As of December 2020, "the children of Republican parents...are more likely to have access to (51%) and be participating in (39%) fully in-person instruction than are the children of Democrats (35% and 22%, respectively)."[1] Furthermore, over three-quarters of Republican parents who have the option to send their children to in-person school full time have chosen to do so, while under two-thirds of Democratic parents have made the same choice.[1,32]

Third, in large urban districts, families (the majority of whom are low-income families of color), educators (the majority of whom are white and middle-class), and district administrators and policymakers (also majority white and middle and upper-middle-class) have been mistrustful not only of federal guidance but also of one another due to decades-long histories of disinvestment, institutionalized and systemic racism, and high-stakes surveillance and accountability measures. While these ills far predate COVID, they have played out in particularly ruthless ways during the pandemic.

One-fifth of high-poverty schools lack even a part-time nurse, and nurses in many schools lack isolation rooms for sick children or even running water.[33,34] Thanks to aging facilities and long-term delayed or neglected maintenance in many high-poverty districts, schools lack windows that can open, have below-minimum ventilation systems, and lack soap, paper towels, and even working toilets.[35,36] When combined with federal failure over the past year to secure and distribute high-quality, low-cost PPE to schools, fraught racial politics, and limited or no money for testing, evaluating building safety, building upgrades, school nurses, or training school personnel in infection-control practices, it is unsurprising that many low-income parents and families of color are skeptical about the safety of in-person schooling. About 30% of parents nationwide, and 39% of Black parents, express "low to nonexistent" trust in their school districts to keep their children safe;[32] this may also explain why 67% of lower-income families and 69%, 72%, and 80% of Hispanic, Asian, and Black parents, respectively, say that schools should wait to reopen until teachers have been vaccinated, as compared to 52% of upper-income families and 51% of White parents.[37] As one Black parent put it bluntly, "For generations, these public schools have failed us and prepared us for prison, and now it's like they're preparing us to pass away."[38]

Trust is further eroded by a culture of surveillance and high-stakes accountability mechanisms that limit collaboration around children's learning and well-being. Relationships between teachers unions and district leadership have been particularly toxic, with districts like Philadelphia, Chicago, Boston, and Washington, D.C., pulling back days or even hours before schools were due to open in early 2021 thanks to breakdowns in negotiations with unions. Similarly, dozens of superintendents who have tried to open schools in the face of teacher opposition have faced (and lost) no-confidence votes by union members in their district.

Fourth, schooling hesitancy by low-income families of color, and embrace of in-person schooling by White and middle- and upper-income families, arguably represents a rational calculation on all sides about individual and community vulnerability, even as it exacerbates inequalities and further entrenches class and racial injustice. Low-income families of color live in denser housing, are more likely to include essential workers who need to keep working in order to earn wages (even in the face of earning worse or no benefits), are more likely to have family members or other close contacts who are medically vulnerable, have worse access to health coverage and to medical care, live in neighborhoods and communities with higher average infection rates, and have poorer outcomes if they do get COVID including increased risk of death as compared to wealthier and White families.[39–44] Because of *de facto* school segregation patterns both across and within districts, their children are also more likely to attend schools with other children living in similar circumstances (and hence who are themselves also more likely to be exposed to COVID outside of school and thus potentially be asymptomatic carriers in school) and to attend schools with few financial resources and located in old buildings that have not been kept up-to-date. Given all of this, it is totally rational even where school districts are open for low-income families of color to choose to keep their children home and for middle- and upper-income White families to choose to send their children to school—even if low-income children also face heightened risk of harm (because of lack of access to nutritional and therapeutic services, greater struggle accessing remote learning because of limited internet or hardware access, fewer quiet places to do work, or greater levels of family stress) than do wealthier children on average.

Addressing schooling hesitancy and inequities in the social determinants of health and learning over the long term

Although schools can remain open when community spread is high if controls are in place, the most important step remains getting community transmission rates down to low levels. As vaccinations ramp up and transmission rates reduce, more educators and parents should feel safer about in-person schooling. The change in administration may also persuade those who rightly didn't trust the prior administration's pandemic response that school reopenings can happen. Thanks to the December 2020 and March 2021 stimulus bills, $181 billion in emergency federal K-12 education funding are becoming available to help many schools reopen and stay open. These funds will enable districts to upgrade school facilities in addition to providing essential educational, nutritional, medical, and social services, after-school and summer programs, and other goods.[45] The American Rescue Plan directs districts in particular to fund "activities to address the unique needs of low-income children or students, children with disabilities, English learners, racial and ethnic minorities, students experiencing homelessness, and foster care youth," commitments which are both promising and necessary.[45]

Given the deep interconnections between the social determinants of health and of learning, and between schooling hesitancy and community vulnerability, however, stark inequities in access to and take-up of in-person schooling are likely to persist for the remainder of this school year and into the 2021-22 school year. Racial, socioeconomic, and geographic disparities in adults' (and eventually children's) vaccination rates may further intensify disparities in families' and educators' feelings of safety--and in their absolute levels of risk--in school districts serving predominantly low-income students of color versus those serving predominantly middle class and white students.[46–48] Furthermore, even if pediatric vaccine

access and uptake were miraculously identical across all groups once pediatric vaccinations are

approved, families living in low-income neighborhoods and families of color may remain more

hesitant to send their children to school in person prior to pediatric vaccine approval given

differences in pediatric health by race, ethnicity, class, and neighborhood (i.e., given the social

determinants of health).[49,50] In this case, we could see higher levels of in-person schooling

hesitancy in historically marginalized communities throughout Fall 2021 and even into Spring

2022 as families wait for rollout of vaccines to young children.

It would be tragic for any school-age child to remain physically out of school in the 2021-

22 school year if they would thrive better in school; it would be particularly tragic if those

children who have been most harmed by long-term, systemic racism and injustice were unable to

access the academic, social, emotional, nutritional, and other benefits of in-person schooling due

to their parents' and guardians' understandable fears for their safety. The next four months are

thus crucial for building a new culture around school safety prior to the start of the 2021-22

school year that takes parents' and educators' schooling hesitancy seriously and responds to it in

good faith.

In part, this means that school districts should commit immediately to spending incoming

stimulus funds on scientifically-based facilities upgrades that will provide benefits during

COVID-19 and beyond, on extended onsite COVID testing to prevent school-based outbreaks

and reassure families that silent spread is not occurring, and on nursing, counseling, and social

work staffing that are adequate to meet families' needs.[51,52] These investments alone would

represent a sea change for schools nationwide; they particularly have the potential to transform

those schools that, as we discussed above, have been systematically deprived of basic facilities,

staffing, and resources to support student health.

We also recommend that schools be set up to serve as community vaccination sites this summer, particularly but not only once pediatric vaccinations become available.[53] Schools are geographically distributed and often centrally located in communities that lack reliable transportation infrastructure. Families know how to get to their children's schools. Principals and school districts also already have practices in place for opening up their buildings as election precincts, shelters during natural disasters, and community meeting places. By partnering with public health officials to open schools as vaccination sites, school districts can both contribute to improved vaccination rates in their communities and demonstrate their public health commitments to a potentially skeptical audience of families and educators.

At the same time, it is equally essential for urban districts and schools to work with individuals, organizations, and institutions in the community to listen to families talk about their concerns; districts cannot simply take unilateral action and expect to eliminate schooling hesitancy. Public health and medical workers have come to recognize that vaccine hesitancy is often deeply personal, rooted in experiences of racism, marginalization, and harm, and is best overcome by humble listening and open conversation among trusted equals.[53–55] School districts can apply these lessons to addressing the problem of schooling hesitancy by using this spring and summer for open, democratic conversations and even one-to-one listening sessions. It may feel inefficient in the moment, but the long-term payoffs of increased mutual trust, changes in school practices that respond to family concerns, and higher rates of in-person student attendance in the fall would be entirely worth it.

Finally, in addition to ramping up safe and speedy school reopening now, we must make a long-term commitment to supporting schools as both sites of and contributors to public health, especially in historically marginalized communities. Even after COVID-19 recedes, we must

continue to fight alongside these communities for both health equity and educational equity, since each is dependent on the other. This work will be neither easy nor quick, but it is both morally necessary and sound public health strategy.

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