

# MODULE ONE

## The Urgent Need for Catching Up—Understanding the Implications of Declines in Childhood Vaccination Rates Resulting from the COVID-19 Pandemic

### An Introduction to the Theme, Issue, or Problem of Practice

This first module sets the tone and focus of the entire toolkit, reinforcing the urgent need to ensure that all students receive required vaccinations. It also sets the stage for vaccinations to be seen by educators and the public as an essential issue of equity. Module One addresses the impact of the pandemic upon students' health, psychological development, academic performance, and attendance. It also includes an exploration of the long-range implications of the pandemic and related vaccination declines upon future academic growth and social-emotional well-being of members of the learning organization.

### Essential Questions

- What has been the impact of the COVID-19 pandemic upon students' required vaccinations?
- Why is it essential for educational leaders to support their districts and schools in addressing this issue?
- What are the health, well-being, and long-term academic implications of dramatically lowered vaccination rates?
- What is the impact of lowered vaccination rates on student health, well-being, and academic achievement?
- What have been the short- and long-range effects of this decline on family and community health?
- To what extent is the issue of lowered vaccination rates an equity concern?

### Outcomes



Analyze the critical importance of student vaccinations and their impact on student well-being, health, development, and academic achievement.



Identify short- and long-term implications of student vaccination declines resulting from the COVID-19 pandemic.



Investigate the implications for educational leaders helping to address the issue of vaccination declines among American students.



Explore the extent to which declining vaccination rates constitute an equity issue in American education today.

# FRAMING THE PROBLEM

## Background and Implications of Declining Student Vaccination Rates in U.S. Public Schools

Educational leaders throughout the United States have been critically important in promoting the health and well being of their students, families, and staffs during the recent COVID-19 pandemic. In spite of unprecedented demands that increasingly shift the focus and priorities leaders must address, superintendents and others have done remarkable work helping to support COVID-19 vaccinations. In fact, many of them have led the process of providing school- and district-based clinics that expand their students' and staff members' ease of access to needed COVID vaccinations.

However, the COVID-19 pandemic has led to a sharp decline in the number of children, particularly adolescents, who are receiving recommended vaccinations. If not addressed, the decline in routinely recommended vaccinations could expose students and staff to vaccine-preventable outbreaks that disrupt learning and lead to physical and mental health issues for students.

School superintendents have a unique role to play in leading immunization efforts in their districts. With the proper outreach and support from school health staff, local public health officials, pediatricians, and central support staff, there is an opportunity to increase the immunization rates for students, reduce absenteeism, and create healthier school environments.

Increasing vaccination rates is also an issue of health equity. The significant decline in childhood vaccinations during the period between 2020 and 2021 has been coupled with decreasing access to specialized therapies and mental health services for students inside and outside of school. However, children of color, children with special health care needs, children in families with low incomes or students with limited English proficiency, and children in rural areas have less access to preventative care and healthcare services than others students. These students may lack transportation to and from healthcare providers or broadband access to participate in telehealth services. Many have been disproportionately impacted by the financial repercussions of the pandemic.

According to an early-April 2020 Urban Institute survey, more than 4 in 10 parents with children under the age of nineteen reported that they or a family member lost a job, work hours, or work-related income because of the pandemic; this share was about 50 percent among parents with low incomes and Black parents and over 60 percent among Hispanic parents (Karpman, Gonzalez, and Kenney 2020). Further, nearly 30 percent of parents who lost jobs or income because of the pandemic reported that their family avoided getting needed medical care because of cost (Gonzalez et al. 2020).

Of particular interest to AASA members who represent rural districts is the issue of disparities between access to healthcare services for rural students compared to urban or suburban peers. While generally similar in health, rural children are more likely to be overweight or obese than urban children. Rural parents are less likely to report that their children received preventive medical or oral health visits than urban parents. Rural children are more likely to die than their urban peers, largely due to unintentional injury. (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5373918/>)

A survey conducted by AASA in 2021 reinforces the importance of school-based vaccination clinic initiatives, especially in light of emerging inequities evident in school districts throughout the country:

- According to this survey, 64% of superintendents indicated that their district engaged in school-based vaccination efforts such as back-to-school clinics and flu clinics.



- 34% had not offered such clinics while 3% indicated they were unsure.
- Rural districts are three times more likely than urban districts to indicate they had previously hosted school-based vaccination clinics.
- The poverty rate of students in the district did not correlate to whether a district has previously hosted a school-based vaccination clinic.
- Only 35% of superintendents indicated that they were interested in the ongoing provision of vaccinations for students beyond the COVID-19 vaccination clinics.
- 37% were not interested and 28% were unsure.
- Of those interested, 47% represented rural districts, 35% suburban districts, and 18% urban districts.

Taken together, these health inequities impact the ability of superintendents to address educational inequities. When children are unable to have regular check-ups with their pediatrician and obtain the vaccinations they need—whether for the common flu or the measles—they are more vulnerable to vaccine-preventable illnesses. Research has found that immunization against measles can increase the number of years of schooling a child receives and may also improve cognitive scores, compared to non-immunized children.

In addition to succumbing to health risks associated with these serious illnesses, children may be unable to get the proper medication and treatment they need due to familial income limitations, transportation access or language barriers. Some vaccine-preventable infections carry the risk of long-term hearing, psychosocial and neurological disabilities that negatively impact a child’s social functioning and educational prospects.

Furthermore, students may return to in-person learning before they are fully recovered from these illnesses because family members cannot afford to stay at home and care for them, which can lead to the subsequent spreading of these infections to other students. If students can remain out-of-school for long periods of time to recover, they may suffer the academic consequences of being chronically absent, which research shows can affect young children in ways that can shape academic outcomes for their entire school career.

School superintendents have a vested interest in ensuring children come to school healthy enough to learn. Ensuring the enforcement of state vaccine requirements coupled with proactive efforts to vaccinate students during the school day and school year is beneficial for all students, educators and communities.





## The Causes of Declining Vaccination Rates Among U.S. Students

The fear of contracting COVID-19 in a health care facility or in the community during the pandemic prevented some parents from seeking routine pediatric care for their children. The issuance of stay-at-home orders and social distancing practices by states also led families to skip well-child visits and delay routine vaccinations. Also, many medical offices and physicians prohibited parents from taking more than one child into the office, which created childcare issues that were particularly acute for low-income families. Safe and reliable transportation was another significant barrier.

Prior to the pandemic, 4% of children (approximately 3 million) missed a health care appointment each year because transportation was unavailable; this includes 9% of children in families with incomes less than \$50,000. With local limitations placed on public transportation during the pandemic, some families were forced to skip opportunities for well visits for their children.

District non-enforcement of state and local immunization requirements for school attendance may also have contributed to the decrease in vaccinations. In particular, as districts transitioned from in-person schooling to virtual and back to in-person schooling, staff members were challenged by the need to keep track of which students lacked the paperwork documenting the immunizations necessary to return to in-person learning.

Additionally, during the pandemic, many families experienced financial uncertainty or loss of income resulting in decisions to avoid routine medical care for fear of cost. Data demonstrate that low-income families with young children are more likely to have missed a well-child visit than middle- and upper-income families. Even families who were enrolled in Medicaid where access to vaccines was free-of-charge were not always able to access medical care because of transportation issues related to the pandemic.

## Implications for School and District Leaders

Without question, a critical component of expanding student vaccination rates is ensuring that all parents and families are provided information about vaccination schedules they should follow. School and district leaders should use a variety of platforms and media to make certain that these groups know what is due—and when—especially if changes or updates occur.

Pediatric outbreaks of vaccine-preventable diseases can lead to the removal of children from school, chronic absenteeism and disrupt the learning and health of students and educators. While the abrupt shift to virtual learning during the COVID-19 pandemic has made it easier for district leaders to ensure students have the opportunity to continue learning while school buildings are closed, transitioning from in-person learning to virtual learning has obvious drawbacks.



The presence of unvaccinated students in a school can pose a risk to students and educators. While vaccines directly protect those students who receive the vaccinations, even those who are not eligible for certain vaccines get some protection because when a critical portion of the population is immunized, the spread of contagious disease is contained. This is sometimes known as “community” or “herd” immunity.

Children who are too young to get vaccinated against certain diseases or who have failed to respond to a vaccine or who might be particularly susceptible to serious diseases and their complications for other reasons like cancer or HIV all benefit when vaccination rates in a school district are high. Educators also benefit from herd immunity as not all educators can be vaccinated due to underlying medical issues and when an outbreak occurs these educators may also be required to comply with stay-at-home orders to protect their own health.

One study found that schools that offered flu vaccine to their students reduced the risk of any child getting the flu by 30%, regardless of vaccination status. Of course, the benefit of childhood vaccinations are most pronounced for the students who are vaccinated; in one study children vaccinated against the flu missed 1.5 fewer days of school per 100 school days compared to those who did not receive flu vaccine.

Routine child and adolescent vaccination is a critical tool in protecting children from vaccine-preventable illness and death. Even a transient decline in vaccination coverage can compromise herd immunity and result in significant outbreaks. For example, during the 2018–2019 academic

year, a measles outbreak occurred in Rockland County, New York and nearby counties. Measles vaccination coverage in schools in the affected area was only 77%, far below the 93%–95% coverage needed to sustain measles herd immunity (9,10). During the outbreak, the county declared a state of emergency and children who were not vaccinated were prohibited from attending school. Because the measles vaccine takes 3 weeks to work, these students lost almost a month of in-person learning.

There is also a community incentive to increasing immunizations for students; many health care systems and other social institutions are already overburdened by treating the COVID-19 pandemic, and vaccine-preventable disease outbreaks can further overwhelm community health resources.

## Practical Suggestions, Action Steps, & “Ready-to-Use” Resources

In this module, educational leaders will find three resources that they can use to introduce the issue of declining vaccinations to staff, parents, and community members. They can use these resources to promote understanding and insights and to enlist the support of their professional learning communities in addressing this critical problem of practice. Resources include:

**01**

An “At-a-Glance” handout you can use to showcase specific data related to the vaccination decline issue

**02**

An overview of leadership strategies and processes that educational leaders can use to build work teams to address key vaccination-related issues

**03**

A brief strategic planning outline for educational leaders to begin, scale-up, and sustain their district or school’s ability to address the issue of vaccination decline

**04**

A set of suggested readings and resources for use by superintendents and leadership teams to explore and analyze the implications of declining vaccination rates for students for their health, well-being, and academic progress

# Student Vaccination Rate Declines Data Sheet

## Student Vaccination Rate Declines: What Does the Data Tell Us?

(Source: "Silent Consequences of COVID-19: Why It's Critical to Recover Vaccination Rates Through Equitable Vaccine Policies and Practices")

Ava Skolnik, Alexandra Bhatti, Anna Larson, and Rachel Mitrovich  
Annals of Family Medicine: [www.annfammed.org](http://www.annfammed.org)

1. In the U.S., routine vaccination rates have plummeted across all age groups due to the COVID-19 pandemic, with our most vulnerable and underserved populations suffering the greatest declines.
2. Returning to a "new normal" and recovering our nation's health and economy is of the utmost importance; however, there is a critical need to recover and protect communities against the spread of other vaccine-preventable diseases and outbreaks.
3. In the U.S. alone, routine childhood vaccination has been estimated to prevent approximately 42,000 deaths and 20 million cases of disease, averting an estimated \$76 billion in total societal costs—in a single birth cohort alone.
4. Private claims data from three routine childhood vaccines (measles-mumps-rubella, diphtheria, tetanus, and acellular pertussis as well as polio) suggest that an estimated 9 million doses may have been missed in 2020 with up to a 26% drop in those three vaccines between January and September of last year.
5. An analysis from 10 state immunization information systems estimates more than a 60% decline in human papilloma-virus vaccination rates for adolescents aged nine to 12 years from March-May of 2020 compared with March-May of 2019.
6. Reports from across the U.S. demonstrate the magnitude of impact of this decline. New York City, for example, showed a 90% drop in vaccine doses given to children over two years of age between March and May of 2020. Similarly, Colorado experienced similar troubling trends with a decline of vaccination rates of 31% for individuals aged under two years, 78% for individuals three to nine years, and 82% for individuals aged 10-17 years between January 2020-May 2020.
7. This vaccine decline is emerging as an equity issue throughout the country. Data from the Vaccines for Children program (serving primarily children who are insured through Medicaid, uninsured, and underinsured) reported declines for HPV vaccination (21%), tetanus, diphtheria and acellular pertussis vaccination (22%), and meningococcal vaccination (18%) from 2020-21 compared to 2019.
8. Traditionally underserved populations, such as those insured by Medicaid, have seen the greatest decline in routine vaccination rates and are also recovering at a slower rate compared with those with private insurance.
9. Funding to address this issue includes a variety of potential sources. Recently, for example, the Biden administration made an investment in the vaccine ecosystem by dedicating \$1 billion to build vaccine confidence, improve vaccination rates for COVID-19 vaccines in underserved communities, and support recovery of routine vaccination rates.
10. In addition, the administration has made a \$6 billion investment in community health centers to expand access to COVID-19 vaccines in underserved communities—in part through addressing vaccine hesitancy.

# Suggested Leadership Strategies and Processes Involving Declining Student Vaccination Rates

**Directions:** Educational leaders can use this resource as a catalyst for discussion among their leadership teams, staff members, and in professional development sessions focusing on addressing declining student vaccination rates. The resource is designed as an informal evaluation tool for users to rate each strategy independently and then share their perceptions about its level of use in dyads or small groups. The following rating scale may be useful in generating opinions and discussion:

3= This leadership strategy is highly evident throughout our school district.

2= This leadership strategy is evident in some schools and offices, but we need to expand its use and impact in our district.

1= We are just beginning to use this strategy to respond to vaccination declines in our district resulting from the COVID-19 pandemic.

0= There is little if any evidence that we are using this strategy in our district.

1. We are offering professional development sessions to ensure that all staff understand the implications of declining vaccination rates for student health, well-being, physical development, and academic achievement.
2. Our district is ensuring that every principal and other staff are informed about the vaccination decline so that they can share this information with families, students, and community members.
3. Our communications office works closely with schools to share information using a variety of media to explain the importance of protection from vaccine-preventable diseases.
4. Educational leaders work to coordinate health and education agencies and services to ensure that students receive appropriate and timely vaccinations.
5. Our district and school leaders work with clinicians and health care organizations to educate parents, caregivers, and families about the importance of routine vaccinations.
6. Our school district consistently sends out messages and reminders to parents and guardians about the timing and importance of routine vaccinations.
7. We have identified organizations, parent leaders, youth leaders, and community liaisons to help us highlight recent drops in vaccination rates and their implications for student progress.
8. We are forming partnerships with local community agencies, governmental organizations, and key stakeholder groups to expand student and family access to vaccination and routine health services, including vaccination sites at schools, drive-through and in-person clinics, and mobile vaccination clinics.
9. Our data management office and other organizations are enhancing our immunization information systems to ensure timely exchange of data and support for analyzing emerging trends related to routine vaccination rates.
10. We are examining how we can use federal funding (including ESSER and Title I funds) to mitigate barriers to vaccination and secure funding for building an effective immunization infrastructure.

# A Brief Strategic Planning Guide for Educational Leaders to Address Declining Student Vaccination Rates

**Directions:** Use the following strategic planning template to guide and inform your initial planning for building and sustaining an immunization infrastructure in your district.

Strategic Goal	Suggested Action Steps	Individuals Responsible	Benchmark Dates for Initial Implementation
<p>1. <b>Beginning the Work:</b> Ensure that all members of the learning community understand the importance of routine vaccinations.</p>	<ul style="list-style-type: none"> <li>• Develop ready-to-use resources to highlight key vaccination data and organizational priorities in your district.</li> <li>• Use a variety of media and platforms to share information about routine vaccination data and resources in your district.</li> <li>• Integrate the issue of vaccination decline into professional development sessions for administrators and staff.</li> <li>• Communicate the range of options available to parents and families to access routine vaccinations in your school and community.</li> <li>• Develop a vaccination project plan that can be integrated eventually into district strategic planning and school improvement plans.</li> <li>• Articulate key problems of practice and related Theories of Action to address declining vaccination rates in your district and schools.</li> </ul>		

<p>2. <b>Scaling Up the Work:</b>          Develop and implement systemic structures, approaches, and programs to expand availability of routine vaccinations for all students.</p>	<ul style="list-style-type: none"> <li>• Develop and implement a long-range plan for cross-institutional partnerships to enhance student and family access to routine vaccinations.</li> <li>• Enlist the support and participation of local and regional health service agencies as well as relevant government and community organizations to support the expansion of routine vaccinations.</li> <li>• Continue to work closely with clinicians and health systems to educate parents, caregivers, and community members to promote the importance of school vaccinations.</li> <li>• Expand immunization information systems within and across your district and region.</li> <li>• Work with partners in the community to eliminate barriers to vaccination, including reducing direct and indirect costs to parents and families.</li> <li>• Work collaboratively to build community and family confidence in the efficacy of routine vaccinations, including making use of community leaders and liaisons in this work.</li> <li>• Explore strategies for funding and implementing expanded vaccination site access, including school-based health clinics, regional clinics, and mobile options such as traveling vaccination clinics.</li> </ul>		
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<p>3. <b>Sustaining the Work:</b>  <b>Build a routine vaccination infrastructure that ensures ongoing student and family access to routine vaccination services and supports.</b></p>	<ul style="list-style-type: none"> <li>• Collaborate on using available funding at the federal, state, and community levels to sustain your work with vaccination information dissemination and ease of routine vaccine access.</li> <li>• Use your expanding vaccination information data system to monitor and communicate trends, patterns, and implications of vaccine-related data.</li> <li>• Integrate vaccination data rates and gaps into your ongoing strategic planning efforts.</li> <li>• Continue to ensure long-range support of your vaccination infrastructure, including: (1) sustained professional learning; (2) ongoing reminders and communication to parents and community members; (3) mitigating obstacles to vaccination (especially for economically disadvantaged students); (4) building and sustaining school-based and regional health services providers (e.g., mobile vaccination clinics, school-based health clinics, community health services); and (5) sustaining analysis and intervention when gaps arise related to student health issues and their impact on academic achievement data.</li> </ul>		
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# Suggested Resources and Support Materials

Every module in this toolkit contains a set of suggested resources (with accompanying hyperlinks) for use by superintendents and leadership teams to explore key issues and trends involving student vaccination rate declines. This first set of resources will provide an introduction to this problem of practice. They will be useful for discussions, information dissemination, and outreach to staff, parents, and community members.

1. **“Many Kids Have Missed Routine Vaccines, Worrying Doctors as School Starts”** ([https://www.npr.org/2021/08/26/](https://www.npr.org/2021/08/26/many-kids-have-missed-routine-vaccines-worrying-doctors-as-school-starts)): This resource includes a three-minute video as well as a brief analysis of the implications of declining student vaccination rates resulting from the COVID-19 pandemic. It explains why this has surfaced, why skipping or delaying childhood vaccinations is dangerous, and the impact of parents’ choice about vaccines and its ripple effects throughout a community.
2. **“Outbreaks Inevitable as Childhood Vaccination Rates Decline—University of Michigan School of Public Health”** (<https://www.sph.umich.edu>): Two graduate students in Epidemiology (Sarah Javaid and Giovanna Buttazzoni) emphasize that “a vaccine can mean the difference between life and death, especially for children. Any decrease in vaccination coverage in a community can lead to an increase in infant death rates due to vaccine-preventable diseases.” The authors stress that with fewer children being vaccinated, we will see outbreaks of diseases that are on the verge of eradication. They suggest that it is a global responsibility to support these programs and ensure that childhood vaccination programs continue.
3. **“Childhood Vaccination Rates Decline Due to COVID-19 Pandemic”/Miami Herald, July 13, 2020** (<https://www.miamiherald.com>): This resource includes a video presentation by Dr. Zach Porterfield who explains how vaccines train the body to recognize an infection. The article (written by Haley Lerner) highlights the growing impact of the COVID-19 pandemic upon overall student vaccination rates, especially required entry-level vaccines for early learning grades and school entry.
4. **“Immunization in the United States: Recommendations, Barriers, and Measures to Achieve Compliance”** (<https://www.ncbi.nlm.nih.gov>): This article by C. Lee Ventola emphasizes that childhood vaccination has proven to be one of the most effective public health strategies to control and prevent disease. In spite of Centers for Disease Control (CDC) recommendations, however, some parents are declining or delaying vaccinating their children because of medical, religious, philosophical, or socioeconomic reasons. The author analyzes the impact of vaccines on public health, recommended vaccines for children and adolescents, and the public health consequences of noncompliance.
5. **“Guide to Hosting COVID-19 Vaccination Clinics at School”** (<https://www.wecandothis.gov>): This website offers a range of materials and resources that school leaders can share, including outreach tools and details about this public education campaign. It includes advice about hosting COVID-19 vaccination clinics at schools, but the ideas presented here can be generalized to include required vaccinations for children and adolescents. Recommendations include: (a) Consult your legal advisor(s); (b) Identify and select a vaccination provider; (c) Pick dates and locations for vaccination clinics; (d) Promote your vaccination clinics and invite your families to get vaccinated; (e) Host clinics to ensure maximum student and parent access; and (f) Share your progress. This resource also includes additional resources that can be accessed electronically, including an “On-Site Vaccination Clinic Toolkit.”
6. **“State Parental Consent Laws for COVID-19 Vaccination”** (<https://www.kff.org/other/state-indicator/state-parental-consent-laws-for-covid-19-vaccination/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>) It is essential for districts to monitor the status of all students’ vaccinations, including those entering and during the early learning years as well as older students. For example, when do students start missing vaccines? This data-gathering and analysis process is a great place to start this work in terms of figuring out the gaps in the system and what’s really needed in the district. This document synthesizes required vaccination schedules in representative states and provides strong empirical data to reach out to students as partners in their own care.

# End-of-Module Self-Reflection Questionnaire

**Directions:** Use the following rating scale to assess the extent to which you are currently implementing each of the recommended action steps below:

4= I am currently fully engaged in addressing this action step, including a clear and sustainable project plan and substantial evidence to support its success.

3= I have begun to address this action step with a clear project plan and some evidence of success in key areas.

2= I have begun to work with some staff on addressing this issue, but we need to be doing more and involving more stakeholders in the process.

1= We are just beginning to address this issue in our learning organization.

1. I am well informed about declining vaccination rates in my school or district.
2. I have shared with staff, families, and community members key data and implications related to declining vaccination rates among our students.
3. I have worked with key stakeholder individuals and groups to explore strategies and techniques for addressing declining student vaccination rates in our district and schools.
4. We have put in place a clear and sustainable data dashboard that allows us to monitor student vaccination rates.
5. We have developed a clear statement for the problem of practice we are addressing in response to vaccination rate declines.
6. We have developed a clear theory of action that communities the strategies and processes we are using to address the problem of declining vaccination rates.
7. We are building on our existing partnerships with such community groups as health centers and agencies and other government entities to explore ways to share resources and services related to improving student vaccination rates.
8. Our strategic planning efforts include investigating creative ways to bring health services (including vaccinations) to students and families within our district (e.g., school-based health centers, community centers as vaccination hubs, traveling vaccination vans and busses, etc.).
9. We are actively monitoring student vaccination rates as part of our data management system, including integrating early-warning signals when rates decline.
10. We are including student vaccination rates as a metric in our district strategic planning and our school improvement planning processes.