



Immunization Practices in College Health: Requirements, Coverage, and Data

A 2021-2022 American College Health Foundation Survey

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ABSTRACT

Congregate living settings, a feature of many institutions of higher education (IHEs), leave campus communities vulnerable to the spread of vaccine preventable diseases. This survey research project looked at key strategies that IHEs have in protecting the health of their students, faculty, and staff—and surrounding communities—against these diseases with the goal of measuring general vaccine coverage on campuses. This survey requested institution-reported vaccine coverage data, including data on COVID-19 vaccines, for enrolled students during the 2021-2022 academic year. Two hundred thirty-two respondents participated in varying degrees. This survey's findings show that determining estimates of vaccine coverage in college student populations remains difficult and that without robust data, results are of limited use. While there appears to be a quick shift to online record sharing, campuses continue to be challenged by their inability to access immunization records. Five recommendations are given to help support efforts to keep campus communities safe from infectious disease outbreaks, the importance of which has been underscored during the recent pandemic.

INTRODUCTION

It has been a longstanding practice among institutions of higher education (IHE) to require students and now, largely due to the COVID-19 pandemic, employees, to meet vaccine and other health requirements to be allowed to learn, work, play, or live on campus. Congregate living—both on and off campus—the close proximity of students in classrooms, and a tendency toward risky behavior leave college students particularly vulnerable to the spread of vaccine-preventable diseases such as measles, mumps, varicella (chicken pox), meningococcal disease, seasonal influenza and COVID-19. Vaccines are safe, effective, and available to protect the campus community from these and many other diseases. The presumed protection vaccines offer allow students, employees, and the college or university itself to thrive.

The purpose of this survey and report, a collaboration between the American College Health Foundation (ACHF) and Pfizer, was to explore campus vaccine policies and procedures and ultimately vaccine coverage rates of students at IHEs in the United States. While a version of this survey was originally fielded in 2020 and its findings detailed in a report entitled *Immunization Practices in College Health: Requirements, Coverage and Data*, this updated survey project sought to learn more about vaccine policies on campus to further identify trends and barriers related to institutional vaccine requirements and enforcement policies and to better understand vaccine data management and verification practices. This research project builds on prior work by adding key questions about the accessibility of and requirements for the total student population for the new COVID-19 vaccines, as many IHEs have modified their existing requirements or have added vaccine requirements for the first time. This survey served to assist the American College Health Foundation in learning more about how non-COVID-19 vaccine policies have changed among IHEs due to the rapid onset of the pandemic and its related vaccines. The project team also hoped to see evidence that the enhanced focus on the COVID-19 vaccines inspired greater awareness in the importance of vaccine coverage among the campus community.

The literature^{1,2,3,4} shows that of the many factors that contribute to vaccine requirements, and compliance with recommendations at IHEs, state immunization laws and campus policies are key. For example, for many IHEs, measles, mumps, and rubella (MMR) vaccines are mandated by state law. Other influencers on IHE vaccine policy include recommendations from the Centers for Disease Control and Prevention (CDC) and the American College Health Association (ACHA).⁵ Data from prior studies also indicates that most post-secondary institutions mandate one or more specific vaccines as a requirement for matriculation (new enrollment).⁶ The focus of this whitepaper continues to be determining the proportion of the student population that is protected by vaccines. While the CDC attempted to evaluate coverage in a 2018 review of college health centers, this objective has not yet been achieved.

This research project paves the way for enhanced understanding of key strategies that IHEs have in protecting the health of their students, faculty, and staff—and surrounding communities—against significant diseases that can disrupt or even completely derail a student’s persistence to graduation. This survey requested institution-reported vaccine coverage data for enrolled students during the 2021-2022 academic year, including data on COVID-19 vaccines, regardless of whether there was a vaccination requirement in place. Vaccine coverage on campus affects not only the health and safety of the campus population, but also health and safety of the surrounding community, an added benefit of a vaccinated college population.

METHODS

A workgroup of college health and wellness professionals – with representatives from epidemiology, nursing, pharmacy, medicine, public health, data science and administration – reviewed and revised questions from administration of the 2020 Immunization Practices in College Health survey. Revisions focused on brevity, clarity, and collecting information on vaccine practices and policies that evolved as the pandemic continued to impact college health. The content of the survey was focused on these major topics: immunization policy and changes made during the pandemic, immunization history data to estimate vaccine coverage, and immunization data policies and practices. The final survey instrument was coded onto a Qualtrics survey platform by ACHA staff and launched December 1, 2021. Survey invitations were sent via email to all ACHA member institutions (N=883), plus an additional 1,785 institutions using a commercial mailing list that provided contacts in student affairs or campus health divisions at accredited, degree-granting postsecondary educational institutions in the United States and its territories. If multiple

- 1 Cook LG, Collins M, Williams WW, et al. Prematriculation immunization requirements of American colleges and universities. *J Am Coll Health*. 1993;42(3):91-98. DOI: 10.1080/07448481.1993.9940822..
- 2 Oliver SE, Patton ME, Hoban M, et al. Evaluation of meningococcal vaccination policies among colleges and universities – United States, 2017. *J Am Coll Health*. 2021 July;69(5):554-559. DOI:10.1080/07448481.2019.1687484.
- 3 Williams WW, Hickson MA, Kane MA, et al. Immunization policies and vaccine coverage among adults: The risk for missed opportunities. *Ann Intern Med*. 1988 Apr; 108(4):616-625. DOI 10.7326/0003-4819-108-4-616.
- 4 Barraza, Leila, et al. Immunization Laws and Policies Among U.S. Institutes of Higher Education. *Journal of Law, Medicine & Ethics*. 2019 Jun;47(2): 342–346. DOI 10.1177/1073110519857292.
- 5 American College Health Association, Vaccine Preventable Disease Advisory Committee. “Immunization Recommendations for College Students.” April 2022. https://www.acha.org/documents/resources/guidelines/ACHA_Immunization_Recommendations_April2022.pdf.
- 6 Fawole OA, Srivastava T, Fasano C, et al. Evaluating variability in immunization requirements and policy among U.S. colleges and universities. *J Adol Health*. 2018 Sept;63(3):286–292. DOI 10.1016/j.jadohealth.2018.06.013.

contacts existed between both mailing lists, the ACHA member was chosen as the representative contact. Thus, surveys were sent to a total of 2,668 institutions. Recipients were asked to forward the survey link to the person at their institution best able to respond to the survey questions.

Surveys were completed online via a unique link provided in the invitation email. Only one response per institution was permitted. The survey remained live through February 9, 2022. Survey responses were downloaded from Qualtrics by ACHA staff and analysis of the data were carried out using SPSS version 23 statistical analysis software.

Institutions whose submissions were on time, valid, and complete in accordance with survey instructions were entered in a random drawing to receive a free registration to ACHA's 2022 annual meeting. Those who completed their survey submission by December 23, 2021, received two entries into the drawing.

RESULTS

Following data cleaning, 232 responses were included in analysis for an overall response proportion of 8%. This was an increase in both frequency and response -from the related 2020 *Immunization Practices in College Health* survey administration (n=188, 7% overall response proportion). Analysis included frequency and percentage descriptives for individual survey items. Most respondents were ACHA members (74%), a similar proportion to responses from the 2020 survey administration (70%). A majority of the survey respondents held the title of executive director or director of health and/or wellness (57%). Other respondents were staff within student health and wellness departments including administration/office managers, nurses, or directors of divisions within student health and wellness departments. The remainder of respondents held titles along the lines of vice president or chancellor for student affairs, or deans within student affairs.

INSTITUTIONAL CHARACTERISTICS/DEMOGRAPHICS

Using each respondent's UNITID from the Integrated Postsecondary Education Data System (IPEDS), institutional characteristics and demographics were integrated into the respondent data set. Respondents were split almost evenly between public (54.7%) and private (45.3%) institutions. Of the ACHA member institutions, the largest proportion came from the Southern College Health Association (21.1%) followed by the Pacific Coast College Health Association (14.7%) and Mid Atlantic College Health Association (12.1%). A majority of institutions were four-year degree-granting institutions, with 82.3% offering baccalaureate, masters and doctoral degrees. Large schools, defined as those with more than 20,000 students, comprised 24.1% of respondents. Small schools, defined as those with fewer than 2,500 students, comprised 24.6% of respondents. Nine campus respondents (3.9%) were from Historically Black Colleges and Universities (HBCUs) and 64 (27.6%) respondents were from religiously affiliated campuses.

Table 1

	2021 Immunization Practices in College Health Characteristics n=232
Institution Sector	54.7% public 45.3% private
Institution Level	87.5% 4-year or above 12.5% 2-year
ACHA Affiliate	21.1% Southern College Health Association 14.7% Pacific Coast College Health Association 12.1% Mid-Atlantic College Health Association
HHS U.S. Region	13.8% Northeast 25.4% Midwest 41.4% South 19.0% West
Enrollment Size Category	24.6% Less than 2,500 17.7% 2,500 – 4,999 18.1% 5,000 – 9,999 15.5% 10,000 – 19,999 24.1% 20,000 or more
Other Demographics	3.9% Historically Black Colleges and Universities (HBCU) 27.6% Religiously Affiliated
Carnegie Classification	12.1% Associates .9% Baccalaureate-Associates 17.7% Baccalaureate 28.4% Masters 36.2% Doctoral 3.9% Special Focus .4% Tribal .4% Not Classified

COVID-19 Vaccine Requirements and Policies

The COVID-19 pandemic led to unprecedented disruptions to IHEs from spring 2020 through fall 2021. However, many IHEs point to their responsive policies and procedures, including those related to vaccine requirements, as buffers from severe impacts.⁷ Acknowledging the importance of COVID-19 vaccines in congregate settings, ACHA first began recommending campus-wide COVID-19 vaccination in the December 2020 guideline document, *Considerations for Reopening Institutions of Higher Education for the Spring Semester 2021*. This was followed by a strongly worded recommendation⁸ calling on IHEs to implement

7 American College Health Association, COVID-19 Task Force Survey. “Lessons Learned from Fall 2020.” January 2021. https://www.acha.org/documents/Resources/COVID_19/COVID-19_Effect_On_Campus_Health_Services_REPORT_5_Jan2021.pdf.

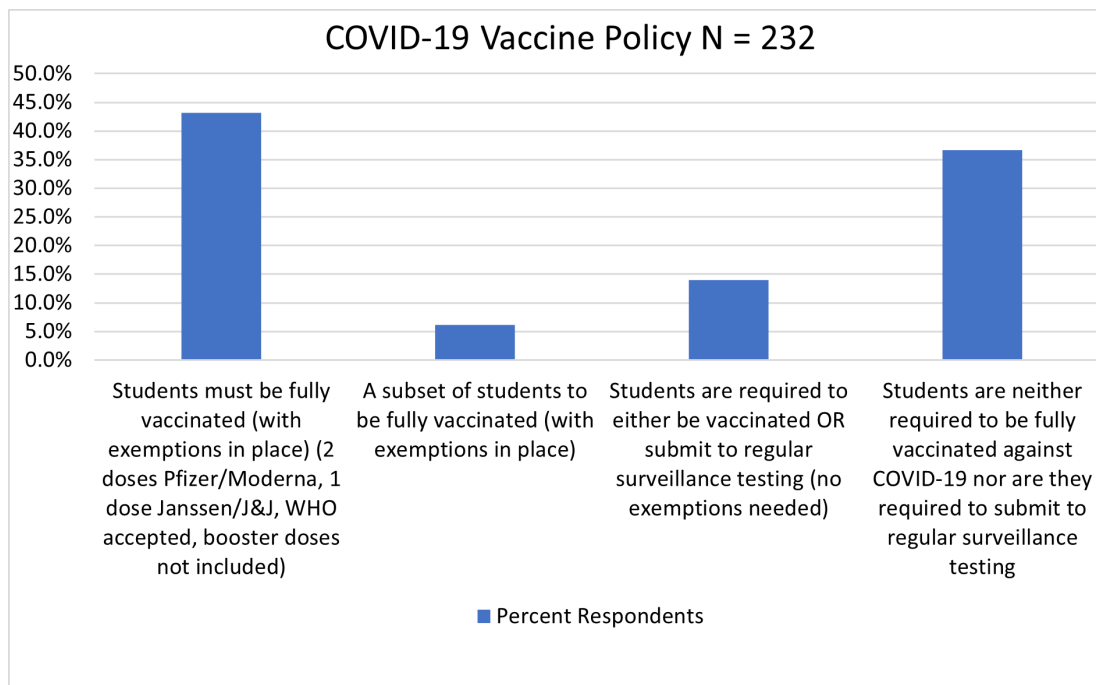
8 American College Health Association. American College Health Association Recommends COVID-19 Vaccination Requirements for All On-Campus College Students in Fall 2021. April 29, 2021. https://www.acha.org/ACHA/About/ACHA_News/ACHA_Recommends_COVID-19_Vaccination_Requirements_for_Fall_2021.aspx.

COVID-19 vaccination requirements for students in April 2021. One of the goals of this survey was to better understand how these recommendations, in addition to CDC's IHE-specific recommendations, were implemented across a wide range of campuses.

Vaccine and Surveillance Testing Requirements

Campus respondents were asked to report on their institution's COVID-19 vaccine policy for the general student population as stated at the beginning of the 2021-22 academic year. Close to half of schools (43.2%, n=99) reported requiring all students to be fully vaccinated with FDA emergency use approved or WHO-accepted COVID-19 vaccines (booster doses not included). Another 14% (n=32) reported that their students needed to either be vaccinated or submit to regular surveillance testing. A sizable number of schools, however, (36.7%, n=84) did not require any vaccination or surveillance testing.

Figure 1



For respondents who indicated that they had exemptions in place for their students (42.8%, n=98), a significant number (89.8%; n= 88) indicated that they required surveillance testing for students with exemptions, with 10.2% (n=10) indicating no surveillance testing. Of the 6% (n=14) who indicated that only a subset of students was required to be fully vaccinated, most (n=10) reported this requirement as a prerequisite for their health science students.

Given the immense task of collecting COVID-19 vaccination information, the project team wanted to better understand how campuses managed this data collection. A majority (55.2%, n=127) of institutions reported collecting COVID-19 vaccine coverage data, with 13.5% (n=31) of institutions not collecting any data at all. Another 7.8% (n=18) reported being restricted from collecting the data. Several institutions (5.2%, n=12) allowed students to attest to having the vaccine, but no documentation was required. The "Other/Specify"

option, included 42 responses, or 18.3% of the total respondents. Among the write-in responses, 28 of the 42 mentioned that their campus allowed for voluntary reporting of COVID-19 vaccine status. Several other campuses reported that their COVID-19 vaccine documentation policies were in flux. Fourteen of the 42 campuses reported they “encouraged” or incentivized their students to report their COVID-19 vaccines to the institution.

COVID-19 Vaccine Delivery

Throughout the pandemic, campus health centers were under enormous strain managing the complex medical and mental health needs of their students, faculty and staff. The project team wanted to better understand the many components that made up this administrative load. They also wanted to determine if campuses that eliminated barriers to vaccination increased their vaccine coverage rates.

Institutions were asked to report on COVID-19 vaccine delivery to students upon arrival. A significant number of institutions (84.8%; n=195) helped make the COVID-19 vaccine available for students as they arrived. Of those, 80% (n=156) provided COVID-19 vaccines through mass vaccination clinics. Forty nine (49.4%) of these mass vaccination clinics were overseen by campus health centers. Also, 46.1% (n=90) reported offering COVID-19 vaccines through the campus health center either by appointment or as walk-ins. Many schools reported making alternative arrangements for COVID-19 vaccination including 20% (n=39) who arranged for offsite vaccination and 6.7% (n=13) who brought in a third-party entity to deliver vaccines.

Additional entities that provided COVID-19 vaccines on campus, as noted in the “Other/Specify” categories (9.7% or n=19), included state and local public health authorities, local pharmacies, the local health systems, and even the National Guard.

COVID-19 Vaccine Coverage

In this survey, respondents were asked to report the COVID-19 vaccination status for all enrolled students at their institution as of the end of the fall 2021 term. The source of this data could be from either institution or student-provided records, independent of where the vaccine was provided. Respondents were asked to report the number of students in each of four mutually exclusive categories:

1. Number of students considered fully vaccinated (receipt of two doses of an mRNA vaccine or one dose of another WHO-accepted vaccine, booster doses excluded)
2. Number of students considered partially vaccinated (started a vaccine series but have not yet completed it)
3. Number of students who submitted a waiver or exemption from vaccination and have not received vaccine
4. Number of students whose vaccine status is unknown or can't be reported

Data were provided by 140 (60%) respondents for 1,140,580 students. Data were adjusted for missing students based on published enrollment figures at these institutions (total enrollment approximately 1.55 million). COVID-19 vaccination status was unknown or not reported for 31.5% of all enrolled students.

Among students with known vaccination status (responses one through three), 95.5% were reported to be fully vaccinated as defined above (range 47.8% – 100.0%, mean 83.0%). Only 1% were partially vaccinated and 3.5% were categorized as having a waiver or exemption. Students who reported their vaccination status to the institution may have been more likely to be vaccinated however, so the true proportion of coverage is likely much lower. When all students enrolled at these institutions are included in the denominator, only 65.3% would be classified as fully vaccinated, with a large number having unknown vaccination status.

General Vaccine Enforcement and Exemptions

The effect of the COVID-19 pandemic on other campus vaccine requirements was also measured. Of 230 respondents, 25 campuses (10.9%) reported making a change to their requirements for all students while three (1.3%) reported making a change just for matriculating (incoming) students. Most of the changes related to the addition of a seasonal influenza vaccine requirement. In a separate question, specific to influenza, 14 campuses (6%) reported new influenza requirements as a direct response to the COVID-19 pandemic. However, some campuses reported significant changes to policy related to other recommended vaccines. One campus reported eliminating their meningitis waiver, making it a requirement for all. Another campus added Tdap and MMR requirements for all students where previously it had been limited to residential students. Three respondents (1.3%) reported loosening vaccine requirements. One campus reported eliminating requirements for students taking online courses only. Another campus reported waiving requirements for a few vaccines.

A parallel to vaccine requirements is vaccine requirement enforcement. To better understand if and how enforcement has been altered during the pandemic, campuses were asked if changes had been made to the policies for all students and/or matriculating students. Of the 230 respondents, most (74.8%, n=172) reported no changes to their enforcement policies. Twenty-five (10.9%) reported a change that applied to all students and six (2.6%) reported a change only applicable to matriculating students. Of those campuses that made changes, the most common alteration involved limiting access to courses. Two institutions reported assessing fines for noncompliance, and two reported delaying access to campus housing until immunization policies were fulfilled. Finally, two institutions reported that they loosened immunization policy enforcement over the past year.

Of 169 respondents who reported having vaccine requirements, 149 (88.2%) indicated that vaccine policy enforcement included consequences. Twenty schools (11.8%) reported no vaccine policy enforcement. The most common enforcement, consistent with data from the *2020 Immunization Practices in College Health*, was registration hold (83.2%, n=124).

Table 3

Vaccine policy enforcement*	
	n
May not attend class in current semester	48
Registration hold	124
Grade hold	8
Transcript hold	12
Housing restriction	34
Monetary fine	15
Suspension or dismissal	21
Other	24
*Sums to more than 149 as more than one answer could be chosen	

The pandemic has also placed outsized attention on vaccine requirement exemptions. Respondents were asked to report on their allowance of non-medical exemptions based on religious or personal beliefs.

Non-Medical Exemptions

Of the 175 respondents, 148 institutions (85%) indicated that non-medical (religious or personal belief) vaccine waivers were accepted while 17 institutions (9.7%) accepted them for some vaccines. Only 10 universities (5.7%) with vaccine requirements did not accept non-medical waivers. The waiver policy rates did not differ by region, school enrollment, private/public, or religious-affiliated or non-religious-affiliated schools.

Table 4

Non-Medical Exemptions Allowed?	n = 175	Percentage
Yes, for all vaccines	148	84.6%
Yes, for some vaccines	17	9.7%
No	10	5.7%

Vaccine Data Collection, Compliance/Verification and Related Staffing Needs

Vaccine coverage on college campuses must include discussion about vaccine documentation and verification. Documentation and verification processes, when done well, assist in protecting campus communities and in particular residential students. But these processes vary greatly. To better understand how campuses handle incoming vaccine data, respondents were first asked about who they collect vaccine data from upon matriculation. 163 respondents reported collecting data from one of the listed groups, 13 reported not collecting vaccine data and 56 didn't respond to the question.

Data Sharing

Of the 163 respondents who reported collecting vaccine information for matriculating students, the largest response, 136 schools (83.4%) reported the use of an online student portal with two additional schools citing use of secure online forms. Electronic transfer from a repository is used by 44 respondents (27%) with additional respondents specifying an electronic drop box through the state and two receiving information from third-party vendors.

However, many respondents reported continuing the more traditional ways of acquiring vaccine data – 86 respondents (52.8%) receive the data through a paper form that is mailed or faxed and 80 respondents (49.1%) receive the data through email and by delivery in person.

When asked if respondents were able to access their state vaccine registry to view student data, the majority 147 (63.4%) reported having the ability to access their state registry, 57 (24.6%) reported not having viewing access to their state registry and 28 (12.1%) did not know.

While there were not many appreciable differences among campuses and how they collected data, large campuses and private schools were more likely to use electronic transfer of records from a repository. This method potentially cuts down on resources needed on campuses and ensures the veracity of the data collected.

Verification of Vaccine Data

As discussed in the 2020 report, *Immunization Practices in College Health*, implementing an institutional or state immunization requirement requires a dedicated effort by institutions. If the goal of vaccine requirements is to provide coverage from vaccine preventable diseases on campus, the verification of these data is critical. In this survey, respondents were asked to report on their verification process.

Of the 179 respondents who indicated they collected vaccine data, 147 (82.1%) indicated that they do verify the vaccine data that they receive or collect only verified data. This includes respondents who indicated that they accept forms signed and dated by a physician, verify data by using their immunization coordinator, or accept data from third party vendors.

There were 24 respondents (13.4%) who reported accepting self-reported vaccine data. This includes two respondents who cited acceptance of vaccination cards. Two respondents conduct sporadic or spot audits, one of which was triggered by suspicious entries.

Respondents who reported a vaccine verification process were asked to further clarify the information that was required of students.

Of the 146 respondents who answered the question about vaccine record verification, 134 (91.8%) cited using verification from medical professionals, with 123 (84.2%) specifying official vaccination records and 118 (80.8%) designating less specific forms signed or submitted by health care professionals. State registries are used for verification by 108 respondents (73.9%) and International Certificate of Vaccination booklets by 99 (67.8%). Two write-in responses included a team that reviews the electronic health record and another group that acquires vaccine information from secondary transcripts.

Non-COVID Vaccine Coverage

Ultimately the goal of institutional and state vaccine requirements is to keep the campus community safe from vaccine preventable diseases. While requirements serve an important function towards achieving this goal, how they are implemented is equally important.

Campuses were asked if they typically offered vaccine clinics or immunization appointments to assist students in meeting recommended vaccine requirements (separate from COVID-19 vaccine).

Of the 192 who responded, the majority, 129 (67.2%) reported providing vaccine clinics or immunization appointments to help students meet recommended vaccine requirements.

Campuses were also asked if they accept serologic test results in lieu of vaccines when appropriate (e.g., for hepatitis B, measles, mumps, rubella, or varicella) as another way to ease implementation of vaccine requirements. Of the 179 respondents, 144 (80.4%) report accepting serologic tests in lieu of vaccine dates when appropriate. There were 21 respondents (11.7%) who reported not accepting serologic tests and 14 (7.8%) who did not know. Of the 144 respondents who reported accepting serologic tests, 87 (60.4%) reported accepting them for hepatitis B, 140 (97.2%) for measles, 135 (93.8%) for mumps, 136 (94.4%) for rubella, and 96 (66.7%) for varicella.

Respondents were asked if they were able to report the number of incoming students who met the institution's vaccine requirements and if not, why not. Only 87 respondents (37.5%) reported being able to report these findings. Ninety-one (39.2%) reported being unable to report or access the data and another 54 (23.3%) reported they either do not have a requirement or it's not applicable. This was consistent with data found in the 2020 survey project where 89 (47.3%) affirmed they were able to report this data. Those who reported an inability to report the data were further queried to better understand the barriers. One issue took front and center: Vaccine data are not easy to access.

Table 5

Reason data are not accessible	Percentage (n=91)
Data are not available for us to extract	17.6% (n=16)
Data are located in several places and are difficult to gather	30.8% (n=28)
Data are only available through a third-party data search	8.8% (n=8)
We don't have enough staff/time available to pull data	48.4% (n=44)
I'm unsure how to pull these data	15.4% (n=14)
Other	12.1% (n=11)

This inability to access data likely also impacted the number of respondents who completed the vaccine coverage data section of the survey. While 87 respondents reported the ability to submit data, no more than 41 respondents offered data for each specific vaccine. Without robust data, the team was unable to meaningfully compute approximate coverage on campuses or draw any conclusions regarding vaccine coverage.

DISCUSSION AND CONCLUSION

Healthy People 2030 “sets data-driven national objectives to improve health and well-being over the next decade” and is often used as a framework for health-related policies and procedures. Healthy People 2030 includes specific vaccination goals:⁹

- Increase the proportion of people with vaccination records in an information system – IID D02
- Increase the proportion of adults age 19 years or older who get recommended vaccines – IID D03

The American College Health Association and Foundation believe that IHEs play an essential role in achieving these goals. IHEs typically serve students considered to be “emerging adults,” a development concept originated by Jeffrey Arnett, PhD, in 2000.¹⁰ These years are the time during which individuals begin making their own healthcare decisions, including those for vaccines. For students enrolled in higher education, it is also an opportunity to promote accurate sources of health information and to cultivate a sense of community and responsibility to care for all.

The onset of the global COVID-19 pandemic has highlighted IHEs’ roles in mitigating spread of the virus and shifted attention towards an often-overlooked subject, student vaccination. IHEs, however, are familiar with campus outbreaks. For those tasked with keeping campuses safe, campus vaccine coverage has always been of great importance. Despite being a priority, however, results from this survey continue to show that campuses either do not possess student vaccine data or if they do, cannot easily access or analyze these data.

Survey findings from this past year, along with the findings from our 2020 survey, described in the *Immunization Practices in College Health: Requirements, Coverage, and Data*, tell a story of campuses struggling to meet the needs of all stakeholders.

This survey’s findings again confirm that determining estimates of vaccine coverage in college student populations remains difficult and that without robust data, results are of limited use.

The importance of knowing your immunization data

Hepatitis A

Many hepatitis A (HepA) cases in the U.S. are acquired through person-to-person contact. Due to congregate living situations and large gatherings typical of the college experience, college students may be at higher risk for hepatitis A outbreaks. Although the HepA vaccine is a routinely recommended childhood/adolescent vaccine that confers long-term immunity, most campuses (as shown in this survey) do not collect HepA vaccine data, and therefore do not know about HepA vaccine coverage on campus. During an outbreak, one dose of the single-antigen HepA vaccine has been shown to control further spread. **Because of the efficacy of the vaccine and the risk for college students in a hepatitis A outbreak, this vaccine is worth tracking.**

Measles

In the event of a measles case on a college campus, college health and local health officials need to act quickly to identify individuals without evidence of presumed immunity who would be at risk of becoming infected. Campuses with a robust immunization compliance system and rapid access to reliable data can quickly determine which students may be at risk, either through exemption or waiver, or those who may not be fully vaccinated. Campuses that can quickly identify those at high risk of contracting measles can immediately isolate vulnerable students and contain the outbreak. **Education, therefore, is not disrupted for the majority of students, and greater trust is built between the community and the institution.**

9 U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (n.d.). Vaccination. “Healthy People 2030.” <https://health.gov/healthypeople/objectives-and-data/browse-objectives/vaccination>.

10 Arnett, J.J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*. 2000 May;55(5), 469–480. PMID: 10842426.

After two surveys, the project team can confirm that one of the biggest challenges is the inability of campuses to access their immunization coverage data. Even with campuses that have electronic health records (EHRs) with existing immunization compliance management systems, accessing and using the data is challenging. Some EHRs cannot interface with state registries and/or some EHRs have difficult interfaces. Many schools have no vaccine requirements and even those that do often do not collect and/or verify their data. Additionally, staffing challenges, competing priorities, and limited support on a state or local level, all contribute to this situation.

There are some data points that serve as bright spots. In part due to the pandemic and in part due to changing legislation, there has been a quick shift to online record sharing. The 21st Century Cures Act Rule, requiring that patients have “have rapid, free, and full access”¹¹ to their notes has likely hastened the ease of vaccine data sharing with college campuses. In the 2020 *Immunization Practices in College Health: Requirements, Coverage and Data* report, the use of online patient portals to upload or report vaccine data was still relatively low at 36.7% (n=69) of respondents. Results from this survey showed that institutions are gravitating towards electronic record management (87.1%, n=142). The increased use of online vaccine data transfer, either through online portals or online state registries, offers great possibilities for campuses to limit resources spent on data verification, to increase trust in the collected information and to improve the ability to understand rates of vaccine coverage on campus.

What does all this mean for IHEs that want to keep their communities safe and free from outbreaks of vaccine-preventable diseases?

Listed below are several considerations for IHEs.

1. **Use the American College Health Association Immunization Recommendations for College Students guidelines**¹² as a complete college health immunization resource. The guide is updated annually and closely follows the Advisory Committee on Immunization Practices (ACIP) recommendations published by the CDC.

The importance of knowing your immunization data

Meningococcal Disease

In a meningococcal serotype B outbreak on campus, series completion is critical to ensure vaccine effectiveness against meningococcal disease. Meningococcal B (MenB) vaccine preparations differ in the number of doses needed to complete the series and in dosing intervals. By utilizing data, campuses can know the status of students and recall them at the right time for additional doses minimizing cases during an outbreak. Targeted, tailored messages to non-compliant students can be disseminated, allowing for those at risk to take action. **During outbreaks, targeted messaging also assists in health service resource allocation.**

Influenza

Influenza outbreaks on campus are the norm, rather than the exception. Being able to access data that inform college health professionals of students who have not yet obtained their influenza vaccines is critical. Messages indicating the importance and urgency of seasonal influenza vaccine can be targeted specifically to unvaccinated students. In addition, in the case of an outbreak, IHEs can pinpoint locations of cases and potentially unvaccinated students, and as such, they can better target outreach efforts. **The faster the response, the lesser the impact on students, faculty, and staff.**

11 OpenNotes. U.S. Federal Rule Mandates Open Notes (Pam, italicize). <https://www.opennotes.org/onc-federal-rule/>. August 25, 2022.

12 American College Health Association, Vaccine Preventable Disease Advisory Committee. “Immunization Recommendations for College Students.” April 2022..

2. **Implement a comprehensive institutional immunization policy.** Vaccine requirements are among the most powerful tools an IHE has available to keep campuses safe from vaccine preventable disease outbreaks.
3. **Commit to robust and accessible data collection.** Independent of vaccine requirements, IHEs should make resources available to better collect and verify vaccine data from all students. That data should be accessible and used to make health and safety decisions.
4. **Know the immunization status of all students** and use that status to inform clinical decision making and public health response.
5. **Know who is at risk.** Make sure systems and processes are in place to quickly be able to identify potentially unprotected students.

Acknowledging the above recommendations require staffing, financial resources, stakeholder buy-in, and in many cases, cross-campus collaboration, these may feel challenging to address at many institutions. Despite the barriers, the importance, priority, and urgency to address each of these has been underscored during the recent pandemic and should continue to be at the forefront as globally, we face more emerging infectious disease outbreaks.