



ELSEVIER

 JOURNAL OF
**ADOLESCENT
 HEALTH**

www.jahonline.org

Original article

Evaluating Variability in Immunization Requirements and Policy Among U.S. Colleges and Universities

Oluwatunmise A. Fawole, M.P.H., Tuhina Srivastava, M.P.H., Caitlin Fasano, M.P.H., and Kristen A. Feemster, M.D., M.P.H., M.S.P.H.R.*

Vaccine Education Center, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania
Article History: Received April 25, 2018; Accepted June 21, 2018

Keywords: Vaccines; Colleges; Universities; Immunizations; Vaccine requirements; Vaccine recommendations; ACHA; Student health; Vaccine policy


A B S T R A C T

Objectives: To evaluate variation in vaccine requirements, recommendations, and enforcement strategies among U.S. four-year colleges and universities.

Methods: We conducted a cross-sectional study abstracting information from Web sites among a sample of 216 four-year colleges and universities from all 50 states and District of Columbia. Our primary outcomes of interest included: type and number of vaccines required for school entry, vaccines recommended by schools for students, and vaccines supplied through student health services. Covariates of interest included: school type, region, school size, mention of American College Health Association recommendations, presence of an accredited health center, mention of state requirements, presence of an enforcement strategy, and exemption stringency of the state in which the school was located.

Results: Almost all (94%) schools required at least one vaccine for school entry, and 48% required three or more vaccines. The most commonly required vaccines were measles, mumps, and rubella (88.4%) and meningococcal vaccine (51.9%). All schools required the same vaccines included in state requirements but 65% also required additional vaccines. Most schools (67.1%) used registration hold to enforce requirements, while 14.8% restricted students from campus housing and 2.8% dismissed noncompliant students. Seventeen percent of schools had no published enforcement strategies. A higher proportion of private compared to public universities required three or more vaccines (57% vs. 37.3%, $p = .014$).

Conclusions: While most schools have immunization requirements, there is significant variation in number and type of vaccines required. This suggests potential inconsistent uptake of recommended vaccines for college students and underlies the need to characterize facilitators and barriers to immunization program implementation on college campuses.

© 2018 Society for Adolescent Health and Medicine. All rights reserved.

IMPLICATIONS AND CONTRIBUTIONS

University campuses are susceptible to infectious disease outbreaks. Therefore, several states have implemented regulations requiring specific vaccines for students entering college, but variations in requirements or recommendations are not well described. This study identifies factors associated with presence and number of vaccine requirements as well as strategies used to enforce requirements.

Conflicts of Interest: The authors have no conflicts of interest relevant to this article to disclose.

Financial Disclosure: The authors have no financial relationships relevant to this article to disclose.

* Address correspondence to: Dr. Kristen A. Feemster, M.D., M.P.H., M.S.P.H.R., Vaccine Education Center, Children's Hospital of Philadelphia, Room 1202, Abramson Building 3615, Philadelphia, PA 19104.

E-mail address: feemster@email.chop.edu (K.A. Feemster).

The Advisory Committee on Immunization Practice's (ACIP) immunization recommendations for adolescents have expanded in recent years to include new vaccines in order to address the risk of disease exposure related to social and occupational behaviors as well as the changing epidemiology of vaccine-preventable diseases [1–6]. In particular, college-bound adolescents are often required to receive or be up-to-date on several vaccines prior to enrollment due to increased transmission risks on college campuses [2,6–8]. University campuses are especially susceptible to outbreaks of infectious diseases such as meningococcus and mumps due to

enhanced person-to-person transmission associated with dormitory living conditions and specific social behaviors among students such as alcohol consumption, exchange of bodily fluids, and smoking; consequently, these social behaviors increase risk of outbreaks of infectious diseases [2–6,9–11]. Additionally, older adolescents' and young adults' have lower perceived risk of contracting vaccine preventable diseases and increased perceptions of invulnerability to adverse health events, which could impact vaccine uptake among college students [12,13]. College students may also have increased exposure risks based on academic and career decisions related to international travel, laboratory research, or health care work [14,15]. Therefore, several states have implemented regulations requiring specific vaccines for students entering college [16].

U.S. colleges and universities utilize significant resources to develop and implement vaccine policy to maintain the health of their students and campuses [7,17]. There are well-described challenges to the implementation of the adolescent vaccine platform for younger adolescents, including lack of regular primary care follow-up, provider recommendation practices, and acceptability among parents and teens [18,19]. However, less is known about the implementation of recommendations for adolescents entering a postsecondary educational setting.

College vaccine requirements may vary from school to school due to state requirements and perceived risk related to recent campus outbreaks [9,10]. Schools may require some vaccines for enrollment but only recommend others. Enforcement strategies to promote compliance with requirements may also vary. These varying requirements and their implementation have the potential to impact subsequent vaccine uptake as well as general awareness and attitudes toward vaccines among college students. As a first step in better understanding the development and implementation of college vaccine policies, the objective of this study was to evaluate variation in vaccine requirements, recommendations, and enforcement strategies among a sample of U.S. four-year colleges and universities.

Methods

We conducted a cross-sectional study among a sample of four-year colleges and universities from all 50 states and the District of Columbia (D.C.). We used the Association of American Colleges and Universities (AACU) membership list to purposefully select at least two public and two private schools from each state [20]. Additionally, two tribal colleges/universities (TCUs) and seven historically black colleges and universities (HBCUs) were added to the sample to construct a representative sample of their presence in the United States (about 1% and 3%, respectively) [21,22]. Schools were selected based on their classification as either public or private and status as a four-year institution using the AACU membership list. Schools were categorized by the total number of enrolled undergraduate students as small ($\leq 5,000$ undergraduates), medium (5,001–15,000 students), or large ($> 15,000$ students) after all schools in the study sample were selected from the AACU membership list. College or university geographical regions were defined by the census regions used by the Centers for Disease Control and Prevention (CDC) [23].

We abstracted information about school characteristics and immunization recommendations and requirements from each of the selected schools' student health Web sites. To access information on vaccine requirements and recommendations for colleges, members of the research team searched through the student

health center portion of school Web sites. If such information was not available on the student health center portion of a school's Web site, members of the research team searched online student handbooks for immunization requirements, guidelines, and policies. This information was available for all schools in the study sample. Members of the research team also searched respective student health center Web sites for information on vaccines provided at the school. If a school did not mention what vaccines were provided by student health on campus, absence of such information was noted. Data were collected from June to August of 2016 by two separate members of the research team using a standardized data collection form. Each member abstracted data from 50 schools' Web sites, and then met with the senior investigator to ensure quality and consistency of data abstraction and refine the data collection tool. After the data collection form was finalized, the members of the research team continued to abstract data from school Web sites. Specific school characteristics recorded include: classification of school type (public or private), total number of enrolled students, total number of enrolled undergraduates, region and location in the United States, acknowledgment of the American College Health Association (ACHA) and/or the ACHA guidelines, and recognition as an accredited school health center by the ACHA (Table 1) [24]. The ACHA issues immunization requirements for college students, in concordance with ACIP guidelines, to help colleges and universities build comprehensive institutional immunization policies [24]. We reviewed the colleges' prematriculation immunization requirements to ascertain if the requirements referenced the recommendations for the ACHA school region and to determine if the school had an accredited school health center by the Accreditation Association of Ambulatory Health Care (AAAH) or the Joint Commission [25].

Our primary outcomes of interest included the type and number of vaccines required for school entry, vaccines recommended by schools for students, and vaccines supplied through student health services. We also collected information regarding the payment options available to students, strategies used to enforce compliance with immunization requirements, and factors associated with the use and presence of enforcement strategies. Our covariates of interest included: school type, region, school size (small, medium, and large), reference to ACHA recommendations, presence of an accredited health center, reference to state requirements, presence of an enforcement strategy for vaccine requirements, and the stringency of exemption policies for vaccine requirements in the state in which the school was located. Exemption stringency was defined as easy, medium, or hard based upon criteria described in the appendix of Omer et al. covering state immunization requirements and exemption policies [26,27]. Easy exemption policies included parents or students being able to complete their own letters rather than standardized forms. Medium exemption policies included states where parents or students had to explain reasoning for the exemption in a certain way, or had to obtain exemption forms from a local health department rather than from the school. Hard exemption policies required notarized proof from medical professionals. Designation was based upon the published policy in place at the time of data collection. We hypothesized that schools in states with easy exemption policies would have fewer requirements than states with medium or hard exemption policies.

Statistical analysis

We performed descriptive statistics to determine key demographic characteristics of the study population as well as the

Download English Version:

<https://daneshyari.com/en/article/10154135>

Download Persian Version:

<https://daneshyari.com/article/10154135>

[Daneshyari.com](https://daneshyari.com)