

**Assessment of Immunization Policies of Four-Year Colleges and
Universities in Kansas – 2012**



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Background

Outbreaks of vaccine-preventable diseases (VPDs) continue to occur on college campuses.¹ These institutions provide favorable environments for infectious disease transmission as large concentrations of students live together on college campuses, attend social gatherings, and attend classes together.² According to the Advisory Committee on Immunization Practices (ACIP), college students that live in dormitories are at an increased risk for meningococcal disease.³ Many college campuses in the United States experienced measles and rubella outbreaks throughout the 1980's. As a result, the American College Health Association (ACHA) adopted a Preadmission Immunization Policy in 1983 recommending that all colleges and universities require students to provide documentation of immunity to VPDs before school registration. ACIP has made similar recommendations since 1980.⁴ Both ACIP and ACHA recommend that colleges and universities implement institutional prematriculation immunization policies.⁵

Immunizations for vaccine-preventable diseases are typically completed by young adulthood as all states have certain immunization requirements for school attendance; however, many states have provisions that allow students to be exempt from these immunization requirements due to religious, philosophical, or medical reasons.⁶ The school system is the primary institution that determines compliance with state immunization requirements, but not all students comply with these requirements either due to delayed vaccination schedules, exemption, or lack of enforcement by the school district. Many states have laws regarding immunization requirements for colleges and universities, but Kansas has no such law.⁶ However, effective at the start of the 2006-07 academic school year, the Kansas Board of Regents mandated that each regents' institution require all incoming students living in student housing to be vaccinated against meningococcal disease or to have documentation of student refusal.⁷ Many colleges and universities in Kansas are not regents' institutions and therefore are not mandated to enforce this policy. Moreover, this policy pertains only to meningococcal disease; students who are unvaccinated or are not fully vaccinated against other VPDs are potential sources of infection and offer more sustainable disease transmission pathways.

A study conducted by the University of Pennsylvania and Philadelphia Student Health Services revealed that 55% of colleges and universities in the United States had implemented a prematriculation immunization requirement (PIR) by 1993 and the presence of a state law or regents' policy was found to be the strongest determinant in policy establishment.⁸ The purpose of this study was to determine the current vaccine-preventable disease immunization requirements of four-year colleges and universities in Kansas.

Methods

A list of four-year colleges and universities in Kansas was collected and schools were excluded if they offered only one bachelors degree, if they were specialized institutions (e.g. medical/nursing schools, vocational and technical schools) or if they were a satellite school of a main campus. A survey was developed and administered by telephone to all 25 four-year colleges and universities, both public and private, in Kansas. The survey consisted of questions about the institution's immunization policy, the amount of time allowed for students to become compliant with that policy, immunizations offered by the institution's student health center, and the respondent's opinion about the need for state legislation mandating immunization policy. Surveys were administered to a student health services representative of each institution. If a health facility was not affiliated with the school, the survey was administered to the individual most knowledgeable about immunization policies as deemed by each college or university. Descriptive analysis was conducted using SAS® 9.3.

Results

Of the 25 four-year colleges and universities in Kansas, all 25 (100%) completed the survey; 8 (32.0%) were public institutions and 17 (68.0%) were private institutions. Twenty-one (84.0%) schools require students to be immunized against at least one VPD (Table 1).

Table 1: School Type and Immunization Policy Status for Four-Year Colleges and Universities in Kansas (N=25)

Name of College/University	School Type	Immunization Policy
Emporia State University*	Public	Yes
Fort Hays State University*	Public	Yes
Haskell Indian Nations University	Public	Yes
Kansas State University*	Public	Yes
Pittsburgh State University*	Public	Yes
University of Kansas*	Public	Yes
Washburn University*	Public	Yes
Wichita State University*	Public	Yes

Baker University	Private	Yes
Barclay College	Private	No
Benedictine College	Private	Yes
Bethany College	Private	Yes
Bethel College	Private	Yes
Central Christian College	Private	Yes
Friends University	Private	Yes
Kansas Wesleyan University	Private	Yes
Manhattan Christian College	Private	Yes
McPherson College	Private	No
MidAmerica Nazarene University	Private	Yes
Newman University	Private	No
Ottawa University	Private	Yes
Southwestern College	Private	No
Sterling College	Private	Yes
Tabor College	Private	Yes
University of Saint Mary	Private	Yes

*Regents' institutions

Of the 21 four-year colleges and universities in Kansas that have an immunization policy, 20 (95.2%) require students to be vaccinated against meningococcal disease or to sign a waiver. Ten (50%) of these institutions, six public schools and four private schools, require only vaccination for meningococcal disease. The remaining 10 (50.0%) schools, one public and nine private, require additional immunizations.

Seven (87.5%) of the eight public schools require vaccination against meningococcal disease; all seven are regents' schools and are therefore mandated to have a meningococcal vaccination policy in place. The one public school that does not require immunization against meningococcal disease does require students to be vaccinated against measles, mumps, and rubella. One of the public schools that requires immunization against meningococcal disease also requires immunization against measles, mumps, and rubella. Of the 13 private schools that have an immunization policy, all (100%) require students to be immunized for meningococcal disease. Vaccination against measles, mumps, and rubella is required by nine (69.2%) private schools, vaccination against tetanus is required by six (46.2%), diphtheria by five (38.5%) schools, pertussis by three (23.1%), polio by three (23.1%), and vaccination against varicella and pneumococcal disease is only required by one (7.7%) private school. No schools, public or

private, require influenza, hepatitis A, hepatitis B, or human papillomavirus (HPV) immunizations (Table 2).

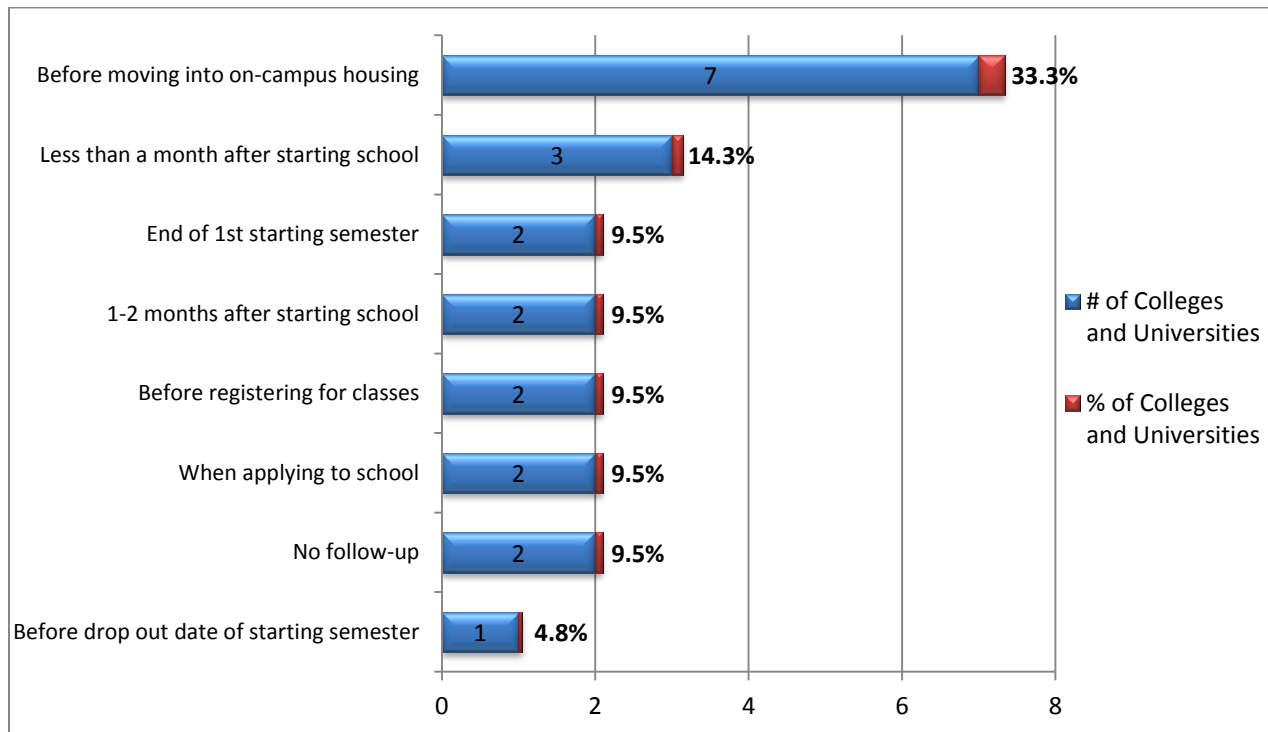
Table 2: Immunizations Required by Four-Year Colleges and Universities in Kansas

Disease Name	# of Public Institutions (%) n=8	# of Private Institutions (%) n=13
Meningococcal disease	7 (87.5%)	13 (100.0%)
Measles	2 (25.0%)	9 (69.2%)
Mumps	2 (25.0%)	9 (69.2%)
Rubella	2 (25.0%)	9 (69.2%)
Tetanus	0 (0.0%)	6 (46.2%)
Diphtheria	0 (0.0%)	5 (38.5%)
Pertussis	0 (0.0%)	3 (23.1%)
Polio	0 (0.0%)	3 (23.1%)
Varicella	0 (0.0%)	1 (7.7%)
Pneumococcal	0 (0.0%)	1 (7.7%)
Influenza	0 (0.0%)	0 (0.0%)
Hepatitis A	0 (0.0%)	0 (0.0%)
Hepatitis B	0 (0.0%)	0 (0.0%)
HPV	0 (0.0%)	0 (0.0%)

Of the 21 colleges and universities that require students to be immunized against VPDs, 11 (52.4%) pertain only to students living on campus, eight (38.1%) pertain to all students living either on campus or off campus, and two (9.5%) require vaccinations for students living on campus, but also require vaccination against measles, mumps, and rubella for students that live off campus.

The amount of time students have to comply with these immunization policies varies greatly among Kansas colleges and universities (Figure 1). Seven (33.3%) of the 21 institutions with an immunization policy require compliance before students can move into on-campus housing and three (14.3%) schools give students less than a month to comply with the required immunizations. Two (9.5%) colleges/universities do not follow-up on immunization status of students.

Figure 1: Time Frame for Compliance with Immunization Policies (n=21)



Of the eight public universities that have an immunization policy, six (75.0%) require students to be compliant before starting school (when applying to school, before registering for classes, and before moving into on-campus housing). Of the 13 private colleges and universities that require students to be immunized against VPDs, five (38.5%) require student compliance before starting school.

Eleven (44.0%) of the 25 four-year colleges and universities in Kansas offer immunizations against VPDs. Seven (87.5%) of the eight public universities offer immunizations and four (23.5%) of the 17 private institutions offer immunizations. The influenza vaccine is offered by all colleges and universities that offer immunizations to students. Seven (100.0%) of the public schools that offer immunizations offer hepatitis A, hepatitis B, meningococcal, and Tdap (Tetanus-Diphtheria-Pertussis) vaccines along with the influenza vaccine. Two (50.0%) of the private schools offer meningococcal, Tdap, and varicella vaccines (Table 3). All of the colleges and universities that offer immunizations have an immunization policy in place.

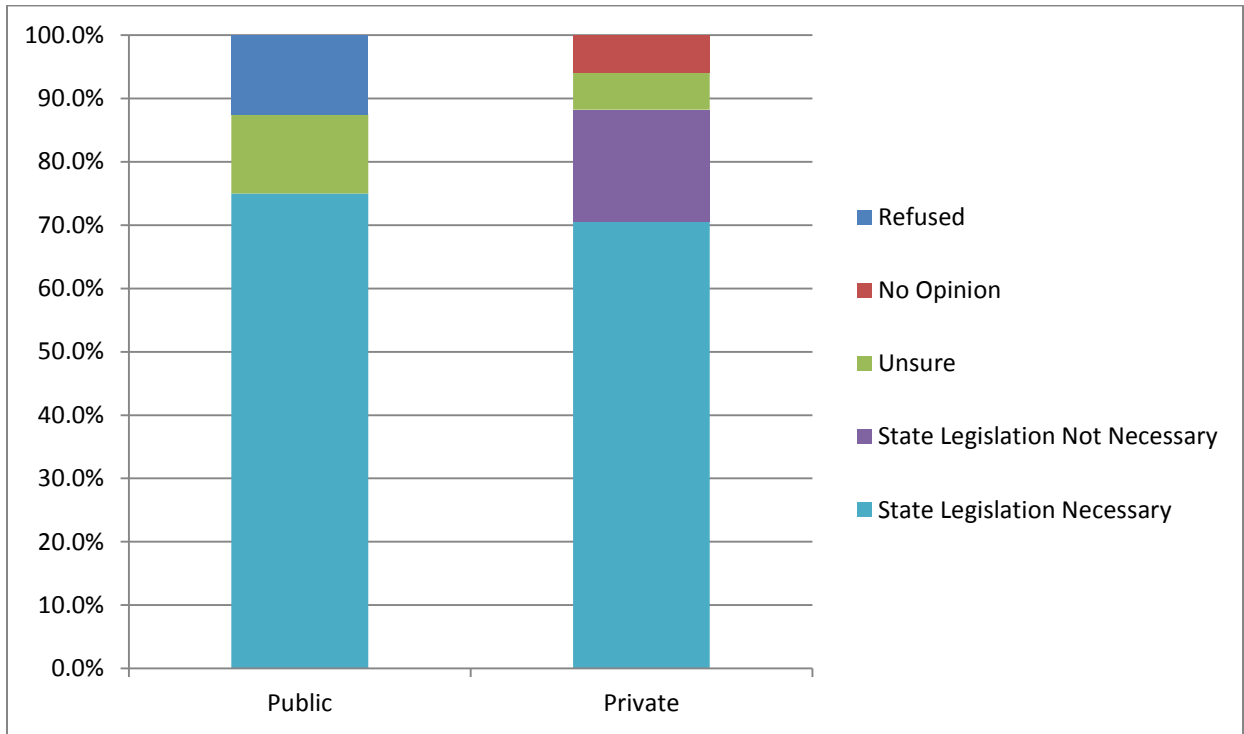
Table 3: Immunizations Offered by Four-Year Colleges and Universities in Kansas

Vaccine	# Of Public Institutions (%) n=7	# Of Private Institutions (%) n=4
Hepatitis A	7 (100.0%)	1 (25.0%)
Hepatitis B	7 (100.0%)	1 (25.0%)
HPV	6 (85.7 %)	1 (25.0%)
Influenza	7 (100.0%)	4 (100.0%)
Meningococcal	7 (100.0%)	2 (50.0%)
MMR (Measles- Mumps- Rubella)	4 (57.1%)	1 (25.0%)
Pneumococcal	3 (42.9%)	1 (25.0%)
Polio	4 (57.1%)	1 (25.0%)
Td (Tetanus- Diphtheria)	6 (85.7 %)	2 (50.0%)
Tdap	7 (100.0%)	2 (50.0%)
Varicella	4 (57.1%)	2 (50.0%)

Of the 25 four-year colleges and universities in Kansas, 14 (56.0%) do not offer immunizations against VPDs. Ten (71.4%) of those 14 schools require students to be immunized against one or more VPD.

The last two questions of the survey assessed respondent attitudes on state legislation mandating immunization policy for colleges and universities. Overall, 18 (72.0%) of the 25 respondents surveyed believe state legislation requiring immunization of students is necessary, three (12.0%) do not believe state legislation is necessary, two (8.0%) respondents were unsure, one (4.0%) did not have an opinion, and one (4.0%) refused to answer the question (Figure 2).

Figure 2: Beliefs Regarding State Legislation by School Type



The last survey question was asked of colleges and universities that did not require students to be immunized against VPDs. Two (50.0%) of the four respondents from institutions with no immunization requirements thought it would not require legislation for their institution to implement a policy, one (25.0%) respondent thought it would require legislation for their institution to implement a policy, and one (25.0%) was uncertain.

Conclusions

Overall, more than 80% of four-year colleges and universities in Kansas have an immunization policy in place. Approximately half of the institutions with a policy require students to be immunized against more than one VPD. The institutions that require immunizations of students vary in how long students have to comply with their immunization policies, but approximately half require students to be immunized with the required vaccinations prior to starting school. There are more institutions that do not offer immunizations to students than those that do and a majority of those schools require students to be immunized against at least one VPD. Greater than 70% of survey respondents believed state legislation requiring immunization of college students was necessary.

A greater percentage of public universities compared to private universities have an immunization requirement, but a larger proportion of private colleges and universities require students to be vaccinated against multiple diseases. When compared to private colleges and universities, there are more public universities that have an immunization policy requiring student compliance before starting school. There is also a greater percentage of public universities that offer immunizations to students than private institutions. More than 70% of the respondents from both public and private schools believed state legislation requiring immunization of college students was necessary.

Discussion

While a majority of the four-year colleges and universities in Kansas have an immunization requirement, only half of them require immunization against VPDs other than meningococcal disease, which may result in an under-vaccinated population to this disease and a population susceptible to other highly infectious VPDs. The high mobility of college students (e.g. studying abroad, traveling for vacations) to other countries where VPDs are endemic and attendance of international students in colleges and universities in the United States provides favorable situations for introduction of VPDs onto campuses.⁴ All but one of the four-year public universities are mandated by the Kansas Board of Regents to have a meningococcal vaccination policy in place for all incoming students living in student housing. All private colleges and universities surveyed in this study are not required to have a meningococcal vaccination policy, but every four-year private institution with an immunization policy in Kansas voluntarily requires students to be vaccinated against meningococcal disease or sign a waiver. In addition, the private colleges and universities surveyed have more comprehensive immunization policies than public universities, but are more lenient on the time allowed for students to become compliant with the particular policy. A study conducted by the University of Pennsylvania and Philadelphia Student Health Services found that prematriculation immunization requirements implemented under a state law in the United States were in general less comprehensive, but better enforced.⁸

There are more vaccines available to students who attend public universities. This may be due to the fact that public institutions are more likely to have a student health facility affiliated with the university whereas many of the private schools do not. All eight (100%) public universities in

Kansas have a health facility on campus whereas only seven (41.2%) of the seventeen private schools have an associated health facility. Furthermore, several of the respondents for the private colleges and universities, including those with an affiliated health facility, mentioned they refer students to local health departments and other health facilities to obtain vaccinations because they do not have the resources to maintain and administer vaccines.

There were several limitations to this study. We relied on persons answering the initial phone calls to select the persons most knowledgeable about immunization policies and practices when colleges or universities did not have a health facility on campus to survey. The respondents answering the questions might not have been the most knowledgeable at each college or university so the validity of their responses is unknown. This survey did not evaluate number of doses for required immunizations in colleges and universities with an immunization policy, and therefore does not reveal if students must be fully vaccinated according to the ACIP immunization schedule, or if under-vaccinated students meet the policy's requirements. The survey only assessed immunization requirements of four-year colleges and universities in Kansas that were main campuses, offered more than one bachelors degree, and were not specialized institutions. There are many other postsecondary educational institutions within Kansas that were not included in this survey.

The findings from this survey could be used for future studies in Kansas to determine if immunization coverage levels of college and university populations are associated with the presence of immunization policies. Furthermore, these findings could be used for future evaluations regarding the necessity for immunization requirements on college campuses in Kansas.

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