

# **Immunization Practices and Policies in Colleges and Universities in Washington State**

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## **Background and Significance:**

Outbreaks of vaccine-preventable diseases (VPDs) on college campuses have serious health and economic consequences. In 1995 in Washington State, a large measles outbreak occurred on a college campus, which cost over \$400,000 to the Department of Health, the county in which the university was located, and the institution. The following year, a measles outbreak in another Washington County also involved students at a college. In 1997, a potential measles outbreak, due to the direct exposure of two athletic teams at another university, was averted, most likely due to high vaccination levels and the quick response by university and county health personnel.

Mumps and rubella outbreaks have also occurred on many college campuses and these diseases can have very serious side effects, particularly in persons who have the potential for child-bearing. In addition, nationwide surveillance has also shown that college students who live in dormitories are at increased risk of developing meningococcal disease (ACHA 1999). Meningitis is a bacterial or viral infection which can lead to permanent brain damage, hearing failure, amputation, kidney failure, and, in approximately 13 % of cases, death.

In an effort to ensure high levels of immunity to vaccine-preventable diseases, the Advisory Committee on Immunization Practices (ACIP), in 1980 recommended that colleges and universities establish policies requiring all students to have documentation of immunity to measles, mumps and rubella (Rodgers, 1992). Taking this a step further, the American College Health Association (ACHA) in 1984 issued a resolution that all colleges and universities should institute a prematriculation immunization requirement (PIR) including documentation of immunity to diphtheria and tetanus in addition to measles, mumps and rubella, and polio for those younger than 18 years of age (Rodgers, 1992).

Although several states have state laws or regents' policies requiring PIRs, Washington State has no such policy in place. Furthermore, local health jurisdictions (LHJs) and the Washington State Vaccine Advisory Committee expressed an interest and need to be familiar with what immunization requirements, practices and services were in place within the college communities in Washington.

In response to this need, the Immunization Program of the Washington State Department of Health, in 2003, conducted a statewide survey of colleges and universities.

The purpose of this survey was to describe, understand and evaluate immunization admission requirements and vaccination practices and services currently in place in colleges and universities in Washington State. Findings from this survey will be used by the Department of Health for policy and program development to promote adequate immunization and decrease the risk of vaccine-preventable disease among the college student and staff populations. Findings may also be used to consider whether the development of immunization requirements or recommendations for admission to institutions of higher learning is needed.

## **Methods:**

All 69 public and independent colleges and universities, public community colleges as well as all public and independent vocational colleges listed in the 2002-2003 edition of the Washington Education Directory were surveyed.

A short written survey was sent by Priority Mail to the registrars of all colleges in Washington State along with a letter describing the survey and requesting that it be completed by the person most knowledgeable about immunization policies and practices at the institution. A metered return envelope was included as well as a fax number for return of the survey.

Information requested included:

- Name, title, department and telephone number of respondent
- Presence of a prematriculation immunization requirement (PIR)
- If PIR in place, what vaccines or screening tests are required?
- If PIR in place, what sanctions are imposed for non-compliance?
- If PIR in place, are signed exemptions accepted?
- Presence of immunization/immunity requirements for staff/health students
- Presence of workplace exclusion restrictions in cases of VPD exposure
- What immunization/immunity information is maintained?
- What immunization record system is used?
- Presence of a student and/or staff health service
- What vaccination services are available?
- Presence of a pre-matriculation meningococcal recommendation
- If more than one institutional site, uniformity of practices and policies

Non-respondents were contacted by project staff by telephone and given the opportunity to respond to a telephone administered survey. Second copies of the survey instrument were mailed if requested.

## **Results:**

All 69 colleges and universities completed the survey for a response rate of 100%.

Twenty-six (38%) of the 69 colleges/universities in Washington State reported that they had prematriculation immunization requirements. (Table 1)

**Table 1. Prematriculation Immunization Requirements (PIR) by Type of Institution**

Type of Institution			PIR		No PIR	
	N=69	(%)	N=26	(%)	N=43	(%)
Public – 4 year	11	(16)	5	(45)	6	(55)
Private – 4 year	21	(30)	7	(33)	14	(67)
Community College	30	(44)	9	(30)	21	(70)
Technical College	7	(10)	5	(71)	2	(29)

Of the 26 colleges and universities with a PIR in place, 16 (62%) reported that they accept exemptions for medical, religious or personal/philosophical reasons. In addition, 3 institutions accept exemptions for medical or religious reasons, one for only medical and one for only religious reasons.

Nineteen (73%) of the 26 institutions with PIRs reported imposing sanctions for students who do not comply with the requirements. About half of these colleges and universities impose more than one type of sanction. The most frequent sanctions imposed consist of not allowing the student to register (n=13), restricting clinical activities for medical and/or health students (n=10) and not allowing the student to attend classes (n=8).

Other sanctions imposed include students being barred from living in residential housing, being banned from participating in extracurricular activities, having financial aid or grades withheld and having letters sent. None of the colleges or universities reported imposing fines for lack of compliance.

Table 2 presents the numbers and percentages of institutions that require vaccinations to particular vaccine-preventable diseases and that require tuberculosis testing.

**Table 2. Antigen/Testing Requirements by Colleges/Universities with PIR**

Antigen/Test	N=26	(%)
Measles	24	(92)
Td	14	(54)
Polio	9	(35)
Hep B	11	(42)
Varicella	5	(19)
Meningococcal	2	(8)
TB Test	13	(50)

Protection from meningococcal disease has become a concern for colleges and universities. The Centers for Disease Control and Prevention (CDC), in the June 2000 MMWR, published the finding that college students were at an increased risk for meningococcal disease. Freshman living in dormitories were found to be at an even higher risk. In the State of Washington, a law was passed in 2003, RCW 70.54.370, and put into effect July 1, 2004 stating that *'Except for community and technical colleges, each degree-granting public or private postsecondary residential campus that provides on-campus or group housing shall provide information on meningococcal disease to each enrolled matriculated first-time student. Community and technical colleges must provide the information only to those students who are offered on-campus or group housing...'*

Although our survey was conducted prior to the enactment of the aforementioned law, we did ask whether the colleges and universities had instituted a prematriculation recommendation for meningococcal vaccination. Seven of the 69 schools surveyed reported having a recommendation for students in campus housing, four for all students, two for freshmen and two were considering instituting the recommendation. Additionally, four institutions reported that they send information about meningococcal vaccination to the students.

In addition to asking about requirements all students prior to matriculation, we asked about immunization and/or immunity requirements for all staff and also specifically for staff and students in medical and/or health professions. While four institutions reported having requirements for all staff, a total of 32 of 58 (55%) reported having them for medical or health staff. The other 11 institutions responded that this question was not applicable. Of the 61 institutions that did not respond *not applicable* to having medical/health students, a total of 39 (64%) reported having immunization/immunity requirements for health profession students. This number includes 18 colleges with PIRs.

Workplace exclusions for susceptible employees exposed to a vaccine-preventable disease were reported by 20% of the colleges and universities. The most frequent vaccine preventable diseases that prompted exclusions from work are measles, mumps, rubella and chickenpox. Seven institutions reported having workplace exclusion criteria in place for all of the vaccine-preventable diseases.

While 23% of the colleges and universities reported maintaining immunization/immunity information for all matriculated students, 57% do so for medical/health students and 35% for medical/health staff. One institution reported maintaining this information for all of their staff.

Overall, 25 (36%) of institutions have student health services which includes 90% of public and 50% of private four-year colleges but less than 20% of community and technical colleges. Only 16% of institutions reported having on campus health services for staff.

All of the colleges and universities were asked how immunization services were provided and what vaccinations, tests and educational materials were available at their institutions. Twenty-one (30%) reported that immunizations are provided through their health service, 9 (13%) through mobile vaccination clinics and 29 (42%) through referral to an outside provider. Many of the institutions use more than one of the above methods. The number of colleges and universities that have vaccines, testing and educational materials relating to vaccine-preventable diseases are noted in Table 3 below.

**Table 3. Vaccine, Testing and Vaccine-Preventable Disease Educational Materials Available in Colleges and Universities in Washington State**

	<b>Vaccine</b> N=69	<b>Testing</b> N=69	<b>Educational Materials</b> N=69
Measles	18	15	22
Mumps	18	14	21
Rubella	18	15	22
Polio	14	1	19
Td	19		17
Varicella	12	11	18
Hepatitis B	18	14	25
Hepatitis A	17	10	25
Meningococcal	14		21
Pneumococcal	7		14
Influenza	23	7	23
TB		19	19

### **Summary and Discussion:**

Overall less than 40% of Washington colleges and universities have prematriculation immunization requirements. Of the institutions with PIRs more than 60% accept exemptions for medical, religious and/or philosophical reasons. Almost 75% of colleges with PIRs impose sanctions for noncompliance, mostly restriction from registration, clinical placements or class attendance.

While over 90% of colleges with PIRs require measles vaccination or proof of immunity, less than 40% have PIRs which leaves a potentially undervaccinated population for this highly contagious disease. This could present a particular problem with international students and students taking educational trips or semesters abroad since almost all of measles disease in the United States has origins in foreign countries. This risk is also present for the other vaccine-preventable diseases with higher prevalence in other countries even though they may have lower communicability.

In addition, while approximately 65% have immunization/immunity requirements for health/medical students and 55% for health/medical staff, only 20% reported having workplace restrictions for exposed susceptible employees.

Another concern is that less than 60% of colleges maintain immunization or/immunity information for health/medical students. The record maintenance is even lower for medical/health staff (35%) and for all students (<25%). This could potentially make it difficult to institute infection control methods in cases of vaccine preventable disease outbreaks.

Although this survey was conducted before enactment of the law requiring dissemination of information about meningococcal disease and vaccination, several institutions had already begun sending information, recommending or requiring vaccination and having educational materials available.

### **Strengths and Limitations:**

This is the first large statewide survey of colleges and universities in Washington State designed to estimate the presence of prematriculation immunization requirements as well as what immunization practices and services exist at these institutions. This survey also provides information on the availability of college immunization/immunity records for use in outbreak situations.

Findings from this project may also be used to contribute to the effort to prevent and control outbreaks of vaccine-preventable diseases that occur among college and university populations and to the effort to address and eliminate health disparities within the State.

Colleges and universities were asked only about current practices and services available and immunization information for individual students was not collected. Therefore, we were unable to estimate coverage levels for individual institutions or for the overall college population in the state. Furthermore, because only colleges and universities listed in the 2002-2003 edition of the Washington Education Directory were included, it is possible that some alternative or newly formed institutions were missed.

### **Future Directions:**

The findings from this project indicate the need for immunization education/information targeted at colleges and universities. There is also the need for dissemination of information about the new meningococcal and pertussis vaccines and other vaccines and recommendations as they become available. The findings may also be used to inform ongoing evaluations and discussions about the need for and usefulness of statewide immunization recommendations and/or requirements for the college setting.

Additionally, findings from this survey may direct future studies to evaluate whether immunization coverage rates among college and university populations are associated with

the presence or types of immunization requirements and services available to students and staff. Furthermore, it may be possible, should outbreaks of vaccine-preventable diseases occur on college campuses within the State, to investigate whether these outbreaks are associated with institutional immunization policies and practices.

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