Department of Health and Human Services
Maine People Living
Safe, Healthy and Productive Lives

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School Vaccine Mandates Report pursuant to LD 424, LD 881 and LD 735

Submitted to:

Joint Standing Committee on Health and Human Services

Submitted by:

Department of Health and Human Services

January 28, 2010

Background

During the first session of the 124th legislature two bills, LD424 and LD881, proposing new school vaccine mandates were considered by the Joint Standing Committee on Health and Human Services. A third bill concerning school vaccination requirements, LD735, was considered by the Joint Standing Committee on Education and Cultural Affairs. All three of these bills were voted ONTP in favor of a more comprehensive assessment of vaccinations mandated for school attendance.

The chairs of the Committee on Health and Human Services sent a letter to Commissioner Harvey requesting a report from the Maine CDC on several issues raised in these three bills. This report is intended to answer the questions raised by the Committee, and summarize the input of an immunization stakeholders group convened by the Maine CDC. This stakeholders group was convened on December 3rd in Augusta, with an option of phone attendance offered. About 20 were in attendance, many of whom were members of the Maine Immunization Coalition.

Other states' school mandated vaccines and criteria used for determining mandates

All states mandate vaccines for school attendance. While there is some variation in the vaccines that are mandated, three vaccines (DTaP, MMR and Polio) are mandated by all states. In addition to these three, Maine also mandates Varicella (chickenpox) vaccine for school attendance. Varicella vaccine is mandated by 45 states for school attendance (Alaska, Hawaii, Missouri, West Virginia and Wyoming do not require Varicella vaccine) (See Appendix 1 – Childcare and School Vaccination Requirements).

While a universal set of criteria for evaluating vaccine mandates does not exist, the state of Washington has established a vaccine task force to examine this issue. Washington developed nine criteria for evaluating school vaccine mandates. These criteria were subsequently critiqued and published in the journal Pediatrics (Appendix 2), with an added tenth criterion. These criteria are soundly reasoned and have been critically evaluated. They have strong potential to serve as a universal core set of criteria for school vaccine mandates in other states.

Criteria agreed upon for use in Maine to determine which vaccines should be mandated for school attendance

Beginning with the proposed ten criteria for school mandated vaccines (Appendix 2), an advisory committee of stakeholders in Maine met on December 3rd to develop agreed upon criteria for mandating vaccines for school attendance in Maine (see Vaccine Coalition Meeting Notes – Appendix 3). These criteria were accepted in spirit, but edited to simplify them and better meet the intent of the school mandates. The revised criteria are as follows:

Criteria for Considering School-Mandated Vaccines in Maine:

Assumptions:

- A process exists for parents to opt out of immunization requirements;
- The vaccine(s) containing the antigen is accessible,
- Cost is not a barrier;
- The vaccine has been provided to all children for free for at least 2 years, though the waiting period could be waived if there is a "pressing public health need".

5 Criteria:

1. The vaccine is ACIP recommended and included in its recommended immunization scheduled for children. Recommendation by the ACIP is made based on the following factors:
    a. Effectiveness is established by immunogenicity
    b. Vaccine is cost effective
    c. Vaccine is safe with an acceptable level of adverse effects
    d. Vaccine prevents disease that is currently or historically a public health burden
    e. Vaccine reduces transmission risk
2. There is general acceptance of the vaccine among the public and the medical community.
3. The burden of compliance – on schools, providers, and governmental public health is considered.
4. The burden of compliance for the parents/caregivers is considered.
5. The vaccine has a direct relationship to increasing safety in the school community.

Application of the criteria to all the childhood vaccines recommended by the ACIP

Maine has a very modest set of school vaccine mandates, and additions to the mandated vaccine list have been proposed in the legislature (e.g. LD424 and LD881 in the 124th Legislature). However, owing to limited funding for childhood vaccines, not all childhood vaccines are provided universally to all children in Maine. Because of funds provided by the Legislature, DHHS is now able to provide universal access to the vaccines that are currently mandated for school attendance. At this time, without universal access to additional vaccines, the Department does not feel it is appropriate to mandate additional vaccines; to do so would violate the assumptions of the mandate criteria above.

Recommendations (if any) for additions to Maine's mandated vaccines for school attendance

In the last legislative session three vaccines were proposed for school mandates (LD424-Tdap, Hepatitis B; LD881-Meningococcal). There was considerable support for these new school mandates, but Maine CDC/DHHS testified Neither For Nor Against both of these bills (see attached testimonies- Appendix 4). The reason that Maine CDC was not able to fully support these mandates was that these vaccines are not provided universally by the State; thus they do not meet the minimal assumptions of our criteria for mandating vaccines that all mandated vaccines should be offered free to our children.

Additional vaccines could be considered for school mandates using the criteria listed above (see Vaccine Coalition meeting notes, Appendix 3). However, based on the agreed upon criteria, these vaccines would be evaluated for school mandates as appropriate only after they have been provided by the state for two years.

Recommendations for strategies to improve vaccination rates among school children

Strategies for improving vaccination rates among school children have been well-studied. Effective strategies fall into several broad categories:

Reducing barriers:

Reducing barriers to vaccination can be effective at increasing vaccination rates. Cost is prominent among vaccination barriers, and reducing or eliminating out-of-pocket expenses for vaccines can be effective. An issue related to cost is availability of combination vaccines. Combination vaccines provide more vaccinations in a single shot and have been shown reduce vaccination barriers. A bill in the current legislature would provide funds through insurance assessments to create a system of universal access to childhood vaccines in Maine.

Providing education:

Education is important for improving vaccination rates. Maine CDC does conduct small media campaigns as a means of public education. Maine CDC has also increased its interactions with the Maine Department of Education and school nurses to provide access to information and expends considerable effort in healthcare provider education.

More strategic approaches to public education would be desirable. In particular, better assessments of educational needs and targeted education could be effective in improving vaccination rates among school children. At present the Maine CDC does not have adequate staffing or funding to expand educational activities.

Strengthening mandates:

Vaccine mandates can improve vaccination rates in specific settings. Within schools, one approach to improving vaccination rates may be to strengthen school mandates by applying more rigorous opt-out provisions. In particular, philosophical exemptions to school vaccine mandates could be strengthened. All states allow some form of medical exemption to school mandates and 48 states allow religious exemptions (Mississippi and West Virginia do not allow religious exemptions). Maine is one of only 18 states that also allow philosophical exemptions to school vaccine mandates. Philosophical exemptions are an important mechanism to allow families to make choices about their own healthcare. However, there is concern that this exemption may be misused by some who simply find it easier to sign an exemption form than to get the required vaccines for their children. Therefore, one possibility to improving rates is to assure that philosophical exemptions are only granted to fully informed families who actively choose to not vaccinate their children.

Improved targeting:

Vaccination schedules have become more comprehensive and complex as new vaccines have been added to the ACIP recommendations. In order to stay current on vaccination schedules children must make all of their routine well-child appointments. Undervaccination of children often occurs when a child has received only a partial series of a vaccine. This is usually not because a parent objects to the vaccine, but because a vaccination opportunity is missed. One approach to improving on-time vaccination is to use an immunization registry for reminder-recall. This computer database allows healthcare providers to more easily identify children in need of scheduled vaccine doses. The Maine CDC maintains an Immunization Registry capable of reminder recall and is currently evaluating strategies to implement this functionality in more settings.

Review of implementation strategies in Maine and other states for controlling disease outbreaks in schools when unvaccinated children are enrolled and recommendations for any needed changes to State law, rule or policy.

Maine CDC is charged with the control of communicable diseases. For the diseases pertinent to this report (Polio, Tetanus, Diptheria, Pertussis, Measles, Mumps, Rubella and Varicella) Maine CDC has procedures in place to manage both cases (eg. those with symptoms) and contacts (eg. those without disease who were exposed) to control disease outbreaks. These procedures are based primarily on the Control of Communicable Diseases Manual (Publishers American Public Health Association and World Health Organization – 19th ed. – 2008). While some diseases outbreaks are best controlled using prophylactic treatment of exposed persons, others are controlled through exclusion from the school setting of both symptomatic cases as well as non-immune (ie. unvaccinated) exposed contacts during a period of risk. Such exclusions are for the protection of all in the school environment with a goal of limiting the disease outbreak. Based on DHHS rule, Maine CDC makes exclusion recommendations to school superintendents, and schools enforce exclusions of non-immune students.

Varicella (ie. chickenpox) is the most common infection that results in exclusion of non-immune contacts from the school environment. In the event of an outbreak of Varicella in a school, students without evidence of Varicella disease or immunization must either provide such evidence, be vaccinated, or be excluded from school for a period of risk to prevent a protracted outbreak (Varicella protocol is included as Appendix 5). Though such exclusions are disruptive to the student and family involved, this disruption is likely less than that of an ongoing outbreak of Varicella to the school and others who may be at risk.

Maine CDC conducted a brief survey of selected states to determine the implementation strategies employed by those states in the event of a school outbreak of vaccine preventable disease. All states surveyed had statutes, rules or policies in place prescribing exclusion of unvaccinated students from school in the event of an outbreak. In some states, this activity was the responsibility of the department of education, or the State, county or local health department. In other states, exclusions were generally the purview of school districts with little or no state involvement.

Review of exemptions to school mandated vaccines, how these are communicated to schools and parents and recommendations for any needed changes to State law, rule or policy based on this review.

In Maine, there are three exemptions available for school vaccine mandates. Medical exemptions are available to students with a physician's written statement that vaccination would be medically inadvisable. Religious exemptions are available with a parent's statement in writing of a sincere religious opposition to immunization. Philosophical exemptions are available with a statement of a sincere philosophical opposition to immunization (see DHHS [joint DOE] Rule Chapter 261, attached as appendix 6).

While these exemptions are clearly enumerated in rules, they are handled at the local level in the school setting. Therefore, the way that these rules and exemptions are communicated to parents could vary by school. The schools are given the responsibility of requiring and maintaining records of immunization. While this responsibility appears to be appropriate, the Department could possibly take a more proactive role in providing standardized information on school vaccination exemptions to schools. This issue is now being evaluated by the Maine CDC Immunization Program's management team.

Childcare and School Vaccination Requirements

2007 – 2008

Contents

FOREWORD

This publication presents a condensed version of the state and project vaccination policies that were validated in March, 2008. It reflects state laws, regulations, or rules that impose vaccination requirements for enrollment and attendance in childcare, kindergarten, and middle school. Also included are the reported allowable exemptions for each project area, college and university vaccination requirements, and immunization program websites.

The policies are vaccine specific, cataloged by grade, and are presented in table format. Because there are variances in requirements, narrative descriptions referencing age or grade and dose requirements are included.

This information represents the collaborative efforts of immunization program managers and staff in the 50 states, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, the U.S. affiliated jurisdictions in the Pacific, and staff from the CDC's National Center for Immunization and Respiratory Diseases.

James A. Singleton, M.S.
Chief, Assessment Branch
Immunization Services Division
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Summary of Vaccination Requirements by Vaccine or Antigen (2007-2008)
For Childcare (CC), Kindergarten (K), and Middle School (MS)

	DTaP		Hep A		Hep B			Hib	HPV	MMR		Measles Dose 2		MCV4	Polio		PCV	Td or Tdap	Varicella		
	CC	K	CC	K	CC	K	MS	CC	MS	CC	K	K	MS	MS	CC	K	CC	MS	CC	K	MS
Alabama																			o	o	o
Alaska																			o		
American Samoa																					
Arizona			*																o	o	o
Arkansas											^^								o	o	o
California											^^								o	o	**
Colorado																			o	o	o
Connecticut										o	o	o							o	o	o
Delaware													**								
District of Columbia																			o	o	o
Federated States/Micronesia	Did not report requirements																				
Florida																			o	o	
Georgia																					
Guam																					
Hawaii																			o	o	o
Idaho																					
Illinois																					
Indiana																			o	o	
Iowa										^	^								o	o	
Kansas																					
Kentucky																				o	
Louisiana							**						**								**
Maine																			o	o	o
Marshall Islands	Did not report requirements																				
Maryland																					
Massachusetts																			o	o	o
Michigan																			o	o	o
Minnesota																				o	o
Mississippi																			o	o	
Missouri																			o	o	
Montana																					
N. Mariana Islands																					
Nebraska																			o	o	o
Nevada				**		**	**													**	**
New Hampshire																				o	o
New Jersey																			o	o	o
New Mexico																			o	o	
New York										o	o	o	o						o	o	o
North Carolina																			o	o	o
North Dakota																					
Ohio																					
Oklahoma																			o	o	o
Oregon																			o	o	o
Palau	Did not report requirements																				
Pennsylvania																			o	o	o
Puerto Rico																			o	o	o
Rhode Island																					
South Carolina																					o
South Dakota																				o	
Tennessee																			o	o	
Texas				*															o	o	o
Utah																					o
Vermont											^										
Virgin Islands																					
Virginia																			o	o	
Washington																					
West Virginia										^	^		**						o		
Wisconsin																			o	o	o
Wyoming																					

Required Not Required Recommended

*Required for specific geographic area(s) only
**Required for new entrants only
^Mumps not required
^^Measles containing vaccine accepted
oDocumented history of disease acceptable

Summary of Vaccination Requirements by Grade Level (2007-2008)

For Childcare, Kindergarten, and Middle School

	Childcare								Kindergarten							Middle School					
	DTaP	Hep A	Hep B	Hib	MMR	Polio	PCV	Varicella	DTaP	Hep A	Hep B	MMR	Measles Dose 2	Polio	Varicella	Hep B	HPV	Measles Dose 2	MCV4	Td or Tdap	Varicella
Alabama								o							o						o
Alaska								o													
American Samoa																					
Arizona		*						o							o						o
Arkansas								o				^^			o						o
California								o				^^			o						**
Colorado					o			o				o	o		o						o
Connecticut								o							o						o
Delaware																		**			
District of Columbia								o							o						o
Federated States/Micronesia	Did not report requirements																				
Florida								o							o						
Georgia																					
Guam																					
Hawaii								o							o						o
Idaho																					
Illinois																					
Indiana								o							o						
Iowa					^			o				^			o						
Kansas																					
Kentucky															o						
Louisiana																**		**			**
Maine								o							o						o
Marshall Islands	Did not report requirements																				
Maryland																					
Massachusetts								o							o						o
Michigan								o							o						o
Minnesota															o						o
Mississippi								o							o						
Missouri								o							o						
Montana																					
N. Mariana Islands																					
Nebraska								o							o						o
Nevada										**	**				**	**					**
New Hampshire															o						o
New Jersey								o							o						o
New Mexico								o							o						
New York					o			o				o	o		o			o			o
North Carolina								o							o						o
North Dakota								o							o						
Ohio																					
Oklahoma								o							o						o
Oregon								o							o						o
Palau	Did not report requirements																				
Pennsylvania								o							o						o
Puerto Rico								o							o						o
Rhode Island																					
South Carolina																					o
South Dakota															o						
Tennessee								o							o						
Texas								o		*					o						o
Utah																					o
Vermont												^									
Virgin Islands																					
Virginia								o							o						
Washington																					
West Virginia					^			o				^						**			
Wisconsin								o							o						o
Wyoming																					

Required Not required Recommended

*Required for specific geographic area(s) only
**Required for new entrants only
^Mumps not required
^^Measles containing vaccine accepted
oDocumented history of disease acceptable

Diphtheria, Tetanus, and acellular Pertussis (DTaP)
2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Required (age appropriate)
Alaska	4 doses (age appropriate < age 7 years)
American Samoa	4 doses (ages 2,4,6,15 months); 5 doses (ages 4-6 years)
Arizona	4 doses (age appropriate)
Arkansas	Required (age appropriate)
California	Required (age appropriate up to age 2 years); 4 doses (ages 2-4 years)
Colorado	4 doses (dose 1 by age 4 months, dose 2 by age 6 months, dose 3 by age 8 months, dose 4 by age 18 months)
Connecticut	Required (age appropriate by age 18 months); 4 doses (> age 18 months)
Delaware	4 doses (5 doses if dose 4 is before age 4 years)
District of Columbia	4 doses (age appropriate by age 18 months); 5 doses (at age 4 years)
Federated States/Micronesia	Did not report requirements
Florida	Required (age appropriate)
Georgia	Required (age appropriate)
Guam	1 dose minimum (age appropriate and must receive all follow-up doses by age recommendations)
Hawaii	Required (age appropriate by age 19 months); 4 doses (> age 19 months)
Idaho	5 doses (age appropriate)
Illinois	3 doses (by age 1 year); 4 doses (at or after age 2 years)
Indiana	3 doses (ages 6-17 months); 4 doses (ages 18-59 months)
Iowa	3 doses
Kansas	4 doses (5 doses if dose 4 before age 4 years)
Kentucky	Required (age appropriate)
Louisiana	Required (age appropriate)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	Required (age appropriate)
Massachusetts	4 doses (age appropriate)
Michigan	Required (age appropriate under age 15 months); 4 doses (age appropriate ages 15 months-5 years)
Minnesota	Required (age appropriate under age 15 months); 4 doses (ages 15 months-4 years); 5 doses (after age 4 years)
Mississippi	4 doses (before age 4 years); 1 dose (after age 4 years)
Missouri	Required (age appropriate following ACIP recommendations)
Montana	Required (age appropriate)
N. Mariana Islands	4 doses
Nebraska	Required (age appropriate; booster given 8-12 months after dose 3)
Nevada	4 doses (age appropriate) or any 5 doses
New Hampshire	Required (age appropriate)
New Jersey	3 doses (age appropriate < age 17 months): 4 doses (minimum for ages 18 months-4 years)
New Mexico	4 doses (3 doses by age 7-12 months; booster dose at age 20-48 month)
New York	Required (age appropriate); 3 doses: pertussis and tetanus
North Carolina	Required (age appropriate following ACIP recommendations)
North Dakota	Required (age appropriate)
Ohio	4 doses
Oklahoma	Required (age appropriate)
Oregon	4 doses (age appropriate): diphtheria and tetanus only, pertussis not required
Palau	Did not report requirements
Pennsylvania	Required (age appropriate)
Puerto Rico	Required (age appropriate)
Rhode Island	Required (age appropriate)
South Carolina	Required (age appropriate)
South Dakota	4 doses (age appropriate with 1 dose after age 4 years)
Tennessee	Required (age appropriate)
Texas	Required (age appropriate)
Utah	Required (age appropriate)
Vermont	Required (age appropriate)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Required (age appropriate)
Washington	1 dose (ages 3-4 months); 2 doses (ages 5-6 months); 3 doses (ages 7-18 months); 4 doses (at or after age 19 months)
West Virginia	3 doses (age appropriate up to age 18 months); 4 doses (over age 18 months)
Wisconsin	2 doses (ages 5-15 months); 3 doses (ages 16-23 months); 4 doses (ages 2-4 years)
Wyoming	Required (age appropriate)

Diphtheria, Tetanus, and acellular Pertussis (DTaP)
2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	4 doses (1 dose after age 4 years)
Alaska	5 doses (4 doses if dose 4 is after age 4 years)
American Samoa	4 doses (K3); 5 doses (K5 and above)
Arizona	4 doses (5 doses if dose 4 is before age 4 years)
Arkansas	4 doses (1 dose on or after age 4 years)
California	4-5 doses (age appropriate)
Colorado	4 doses (final dose on or after age 4 years); 5 doses (if dose 4 was before age 4 years)
Connecticut	4 doses (final dose after age 4 years)
Delaware	4 doses (5 doses if dose 4 is before age 4 years)
District of Columbia	4 doses (age appropriate age 18 months); 5 doses (at age 4 years)
Federated States/Micronesia	Did not report requirements
Florida	5 doses (4 doses if dose 4 is after age 4 years)
Georgia	3 doses (1 dose after age 4 years)
Guam	1 dose minimum (for school entry, but must receive all follow-up doses needed to complete the series)
Hawaii	5 doses (4 doses if dose 4 is on or after age 4 years)
Idaho	5 doses
Illinois	4 doses (1 dose after age 4 years)
Indiana	5 doses (4 doses if dose 4 is after age 4 years)
Iowa	4 doses
Kansas	4 doses (5 doses if dose 4 is before age 4 years)
Kentucky	5 doses
Louisiana	4-5 doses (1 dose after age 4 years)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	4 doses
Massachusetts	5 doses (unless dose 4 is after age 4 years)
Michigan	5 doses (unless dose 4 is after age 4 years)
Minnesota	5 doses (unless dose 4 is after age 4 years)
Mississippi	4 doses (1 dose after age 4 years)
Missouri	4 doses (following ACIP recommendations)
Montana	4 doses (1 dose after age 4 years)
N. Mariana Islands	5 doses
Nebraska	3 doses (1 dose on or after age 4 years)
Nevada	4 doses (1 dose after age 4 years)
New Hampshire	4 doses (1 dose after age 4 years); 5 doses (no age limitation as long as minimum intervals are met)
New Jersey	4 doses (1 dose on or after age 4 years)
New Mexico	4 doses (1 dose on or after age 4 years)
New York	3 doses: diphtheria only, tetanus and pertussis not required; 4 doses: DTP for NYC only
North Carolina	5 doses (1 dose after age 4 years and before school entry)
North Dakota	5 doses (unless dose 4 is on or after age 4 years, age appropriate)
Ohio	5 doses (if dose 4 is before age 4 years)
Oklahoma	5 doses (unless dose 4 is after age 4 years)
Oregon	5 doses (unless dose 4 is after age 4 years): diphtheria and tetanus only, pertussis not required
Palau	Did not report requirements
Pennsylvania	4 doses (1 dose on or after age 4 years): diphtheria and tetanus only, pertussis not required
Puerto Rico	5 doses (unless dose 4 is after age 4 years)
Rhode Island	5 doses (unless dose 4 is after age 4 years)
South Carolina	4 doses (1 dose after age 4 years)
South Dakota	4 doses (1 dose after age 4 years)
Tennessee	4 doses
Texas	5 doses (unless dose 4 is on or after age 4 years)
Utah	5 doses (unless dose 4 is after age 4 years)
Vermont	3 doses (6 months between dose 2 and dose 3): pertussis not required
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	3 doses (1 dose after age 4 years)
Washington	4 doses (1 dose after age 4 years)
West Virginia	3 doses (1 dose on or after age 4 years)
Wisconsin	4 doses (1 dose after age 4 years); 3 doses (if dose 3 is after age 4 years)
Wyoming	4 doses (1 dose after age 4 years for new entrants)

Tetanus and Diphtheria (Td) or Tetanus, Diphtheria, and acellular Pertussis (Tdap) 2007-2008 Requirements for Middle School

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Required (if 5-10 years after preschool booster)
Alaska	Required (if 10 years after last tetanus/diphtheria containing vaccine)
American Samoa	1 dose (between ages 11-14 years)
Arizona	Not required (Tdap required beginning 2008 school year for grade 6 entry)
Arkansas	3 doses (either Tdap/Td/DTP/DTaP/DT)
California	Not required
Colorado	1 dose (Tdap; grade 6)
Connecticut	Not required
Delaware	Not required (recommended if 5 years after the last DTaP/DTP/ DT)
District of Columbia	Required (age appropriate every 10 years)
Federated States/Micronesia	Did not report requirements
Florida	1 dose
Georgia	Not required
Guam	Required (if 10 years since last DTP/DTaP/Td)
Hawaii	Not required
Idaho	Not required
Illinois	1 dose (if 10 years since last DTP/DTaP/Td; high school requirement for 9th grade primarily)
Indiana	3 doses (either DTP/DTaP/Td/DT)
Iowa	Not required
Kansas	Required (10 years after primary series; can be given to ages 11-12 years if at least 5 years after primary series)
Kentucky	Required (at age 11 or 12 years)
Louisiana	Required (new entrants only)
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	Not required
Massachusetts	1 dose
Michigan	Required (if 10 years since last dose)
Minnesota	1 dose
Mississippi	Not required
Missouri	Required (age appropriate)
Montana	1 dose (Tdap or Td)
N. Mariana Islands	1 dose
Nebraska	Not required
Nevada	Required (age appropriate)
New Hampshire	1 dose (if 10 years since last dose)
New Jersey	Not required
New Mexico	1 dose (Tdap or Td)
New York	1 dose (Tdap)
North Carolina	1 dose (if 10 years or more since last tetanus containing vaccine)
North Dakota	Not required
Ohio	Not required
Oklahoma	Not required
Oregon	Not required (recommended)
Palau	Did not report requirements
Pennsylvania	Not required
Puerto Rico	Required (age 11 years or older)
Rhode Island	Required (if 5 years or more since last tetanus containing vaccine)
South Carolina	Not required
South Dakota	Not required
Tennessee	Not required
Texas	1 dose (Tdap or Td; if 10 years since last dose)
Utah	1 dose (Tdap preferable; Td acceptable)
Vermont	1 dose (if 10 years since last tetanus containing vaccine)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	1 dose (Tdap or Td; if at least 5 years since last dose)
Washington	Required
West Virginia	Not required
Wisconsin	Not required
Wyoming	Required (age appropriate + one booster)

NOTE: Unless a specific antigen is specified, Td is acceptable.

Hepatitis A (Hep A)
2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	2 doses (after age 1 year with a minimum interval of 6 months)
American Samoa	Not required
Arizona	2 doses (ages 12-71 months in Maricopa County only)
Arkansas	Not required
California	Not required (recommended)
Colorado	Not required
Connecticut	Not required
Delaware	Not required
District of Columbia	Not required
Federated States/Micronesia	Did not report requirements
Florida	Not required
Georgia	2 doses (born after 1/11/06)
Guam	Not required
Hawaii	Not required
Idaho	Not required
Illinois	Not required
Indiana	Not required
Iowa	Not required
Kansas	Not required
Kentucky	Not required
Louisiana	Not required
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	Not required
Massachusetts	Not required (recommended)
Michigan	Not required
Minnesota	Not required
Mississippi	Not required
Missouri	Not required
Montana	Not required
N. Mariana Islands	Not required
Nebraska	Not required
Nevada	Not required
New Hampshire	Not required
New Jersey	Not required
New Mexico	Not required
New York	Not required
North Carolina	Not required
North Dakota	Not required
Ohio	Not required
Oklahoma	2 doses (dose 1 at or after age 2 years; dose 2 administered 6-18 months later)
Oregon	Not required (recommended)
Palau	Did not report requirements
Pennsylvania	Not required
Puerto Rico	Not required (recommended)
Rhode Island	Not required
South Carolina	Not required (recommended)
South Dakota	Not required
Tennessee	Not required
Texas	Required (age appropriate)
Utah	Not required
Vermont	Not required
Virgin Islands	Not required
Virginia	Not required
Washington	Not required
West Virginia	Required (age appropriate)
Wisconsin	Not required
Wyoming	Required (age appropriate)

Hepatitis A (Hep A)
2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	2 doses (after age 1 year with a minimum interval of 6 months)
American Samoa	Not required
Arizona	Not required
Arkansas	Not required
California	Not required
Colorado	Not required
Connecticut	Not required
Delaware	Not required
District of Columbia	Not required
Federated States/Micronesia	Did not report requirements
Florida	Not required
Georgia	Not required
Guam	Not required
Hawaii	Not required
Idaho	Not required
Illinois	Not required
Indiana	Not required
Iowa	Not required
Kansas	Not required
Kentucky	Not required
Louisiana	Not required
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	Not required
Massachusetts	Not required
Michigan	Not required
Minnesota	Not required
Mississippi	Not required
Missouri	Not required
Montana	Not required
N. Mariana Islands	Not required
Nebraska	Not required
Nevada	2 doses (new entrants)
New Hampshire	Not required
New Jersey	Not required
New Mexico	Not required
New York	Not required
North Carolina	Not required
North Dakota	Not required
Ohio	Not required
Oklahoma	2 doses (dose 1 on or after age 2 years, dose 2 administered 6-18 months later)
Oregon	Not required (recommended)
Palau	Did not report requirements
Pennsylvania	Not required
Puerto Rico	Not required (recommended)
Rhode Island	Not required
South Carolina	Not required
South Dakota	Not required (recommended)
Tennessee	Not required
Texas	2 doses (grades K-3 in designated counties)
Utah	2 doses
Vermont	Not required
Virgin Islands	Not required
Virginia	Not required
Washington	Not required
West Virginia	Not required
Wisconsin	Not required
Wyoming	Required (age appropriate)

Hepatitis B (Hep B)

2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	3 doses
American Samoa	3 doses (ages birth, 1, and 6 months: infants of carrier mothers); 1 dose (age 12 months: infants of non-carrier mothers)
Arizona	3 doses (age appropriate)
Arkansas	Required (age appropriate)
California	3 doses
Colorado	3 doses (dose 1 by age 4 months, dose 2 by age 6 months, dose 3 by age 15 months)
Connecticut	3 doses (age appropriate before age 18 months)
Delaware	Required (age appropriate)
District of Columbia	Required (age appropriate intervals: dose 3 at or after age 6 months)
Federated States/Micronesia	Did not report requirements
Florida	Not required
Georgia	Required (age appropriate)
Guam	1 dose minimum (age appropriate and must receive all follow-up doses by age recommendations)
Hawaii	3 doses (age appropriate)
Idaho	3 doses
Illinois	3 doses
Indiana	3 doses (age appropriate)
Iowa	3 doses
Kansas	Not required (recommended)
Kentucky	Required (age appropriate)
Louisiana	Required (age appropriate)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	Required (age appropriate)
Massachusetts	3 doses (age appropriate)
Michigan	3 doses (age appropriate before age 15 months)
'innesota	Not required
.ssissippi	Not required
Missouri	Required (age appropriate following ACIP recommendations)
Montana	Not required
N. Mariana Islands	3 doses
Nebraska	3 doses (age appropriate)
Nevada	Not required
New Hampshire	Required (age appropriate)
New Jersey	Not required
New Mexico	3 doses (age appropriate)
New York	3 doses or positive serological test as proof of immunity
North Carolina	Required (age appropriate following ACIP recommendations)
North Dakota	Not required
Ohio	3 doses
Oklahoma	3 doses (age appropriate)
Oregon	3 doses (age appropriate)
Palau	Did not report requirements
Pennsylvania	3 doses (age appropriate)
Puerto Rico	Required (age appropriate)
Rhode Island	3 doses (age appropriate)
South Carolina	3 doses (age appropriate)
South Dakota	Not required (recommended)
Tennessee	3 doses (age appropriate)
Texas	Required (age appropriate)
Utah	Not required
Vermont	Not required (recommended)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	3 doses (age appropriate)
Washington	3 doses (> age 5 months); 2 doses (ages 3-4 months)
West Virginia	3 doses (age appropriate)
:onsin	2 doses (ages 5-23 months); 3 doses (ages 2-4 years)
,oming	3 doses

Hepatitis B (Hep B)
2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	3 doses
American Samoa	3 doses
Arizona	3 doses
Arkansas	3 doses
California	3 doses
Colorado	3 doses
Connecticut	3 doses
Delaware	3 doses (age appropriate)
District of Columbia	3 doses (age appropriate intervals: dose 3 at age 6 months or older)
Federated States/Micronesia	Did not report requirements
Florida	3 doses
Georgia	3 doses
Guam	1 dose minimum (for school entry, but must receive all follow-up doses to complete the series)
Hawaii	3 doses
Idaho	3 doses
Illinois	Not required
Indiana	3 doses
Iowa	3 doses
Kansas	3 doses
Kentucky	Required (completion of series)
Louisiana	Required
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	3 doses
Massachusetts	3 doses
Michigan	3 doses
Minnesota	3 doses
Mississippi	3 doses
Missouri	3 doses (following ACIP recommendations)
Montana	Not required
N. Mariana Islands	3 doses
Nebraska	3 doses
Nevada	3 doses (new school entrants)
New Hampshire	3 doses
New Jersey	3 doses
New Mexico	3 doses
New York	3 doses or positive serological test as proof of immunity
North Carolina	3 doses
North Dakota	3 doses
Ohio	3 doses
Oklahoma	3 doses
Oregon	3 doses
Palau	Did not report requirements
Pennsylvania	3 doses
Puerto Rico	3 doses
Rhode Island	3 doses
South Carolina	3 doses
South Dakota	Not required (3 doses recommended)
Tennessee	3 doses
Texas	3 doses
Utah	3 doses
Vermont	Not required (recommended)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	3 doses
Washington	3 doses
West Virginia	Not required
Wisconsin	3 doses
Wyoming	3 doses

Hepatitis B (Hep B)

2007-2008 Requirements for Middle School

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	3 doses
American Samoa	3 doses
Arizona	3 doses (or 2-dose adolescent series)
Arkansas	3 doses (or 2 dose adolescent series for ages 11-15 years)
California	3 doses
Colorado	3 doses (2 doses acceptable for ages 11-15 years if given approved Merck's 2-dose Recombivax, 1.0cc)
Connecticut	3 doses
Delaware	3 doses (2 doses acceptable for ages 11-15 years)
District of Columbia	3 doses (age appropriate intervals with the 3rd dose at age 6 months or older)
Federated States/Micronesia	Did not report requirements
Florida	3 doses (2 doses acceptable for ages 11-15 years)
Georgia	3 doses
Guam	1 dose minimum (for school entry, but must receive all follow-up doses needed to complete the series)
Hawaii	3 doses (grade 7 entry and new entrants to HI schools)
Idaho	3 doses (if born after 11/22/1991)
Illinois	3 doses (grade 5; progressive requirement)
Indiana	Not required
Iowa	3 doses
Kansas	Not required (recommended)
Kentucky	Required (completion of series)
Louisiana	Required (new entrants only)
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	Required (K-grade 10)
Massachusetts	3 doses
Michigan	3 doses (grade 6 entry or new entrant to the school district)
Minnesota	3 doses (grade 7 only)
Mississippi	Not required
'issouri	3 doses
.Iontana	Not required
N. Mariana Islands	3 doses
Nebraska	3 doses
Nevada	3 doses (new school entrants)
New Hampshire	3 doses (if born on or after 01/01/1993)
New Jersey	3 doses (2 doses acceptable for ages 11-15 years if given approved Merck's 2-dose Recombivax)
New Mexico	3 doses (2- dose Recombivax acceptable for ages 11-15 years)
New York	3 doses (2 doses acceptable for ages 11-15 years) or positive serological test as proof of immunity
North Carolina	3 doses (if born on or after 07/01/1994)
North Dakota	Not required
Ohio	Required (grade 7 entry)
Oklahoma	2-3 doses (depending on vaccine used)
Oregon	3 doses (2 doses if dose 1 on or after age 11 years and dose 2 at least 4 months later)
Palau	Did not report requirements
Pennsylvania	3 doses (grade 7 entry)
Puerto Rico	3 doses
Rhode Island	Required
South Carolina	3 doses
South Dakota	Not required
Tennessee	3 doses
Texas	3 doses
Utah	3 doses
Vermont	Required
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Required (complete series prior to grade 6 entry)
Washington	3 doses (through grade 10)
West Virginia	Not required
Wisconsin	3 doses
Wyoming	3 doses

Haemophilus influenzae Type b (Hib)
2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Required (age appropriate)
Alaska	Required (age appropriate)
American Samoa	3 doses (ages 2,4,15 months PedvaxHIB)
Arizona	3-4 doses (age appropriate)
Arkansas	Required (age appropriate)
California	2 doses (age appropriate)
Colorado	3 doses (series began before age 1 year); 2 doses (series began at ages 12-14 months); 1 dose (series began at age 15 months)
Connecticut	Required (age appropriate)
Delaware	Not required
District of Columbia	3-4 doses (age appropriate age 1 year, depending on manufacturer; up to age 5 years)
Federated States/Micronesia	Did not report requirements
Florida	Required (age appropriate)
Georgia	3-4 doses (age appropriate)
Guam	Required (age appropriate)
Hawaii	Required (at least 1 dose on or after age 1 year)
Idaho	3 doses (age appropriate)
Illinois	Required (age appropriate or at least 1 dose after age 15 months)
Indiana	1-4 doses (age appropriate and dependent on manufacturer; not required if dose 1 not received before age 5 years)
Iowa	1 dose (at least; ages 2-18 months); 3 doses (at least; ages 18 months and older); or 1 dose (at least; after age 15 months)
Kansas	Not required (recommended)
Kentucky	Required (age appropriate or at least 1 dose after age 15 months)
Louisiana	Required (age appropriate)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	Required (age appropriate)
Massachusetts	3-4 doses (age appropriate, depending on vaccine)
Michigan	Required (age appropriate or at least 1 dose after age 15 months)
Minnesota	1 dose (at least + history of 1 dose given after age 1 year)
Mississippi	Required (age appropriate)
Missouri	Required (age appropriate following ACIP recommendations)
Montana	Required (age appropriate)
N. Mariana Islands	4 doses
Nebraska	Required (age appropriate up to 3 doses)
Nevada	Required (age appropriate)
New Hampshire	Required (age appropriate)
New Jersey	2 doses (age appropriate ages 2-11 months): 1 dose (on or after age 1 year)
New Mexico	1-'3 doses (age appropriate)
New York	Required (age appropriate or at least 1 dose after age 15 months)
North Carolina	Required (age appropriate up to age 15 months); 1 dose (> age 15 months up to age 5 years)
North Dakota	Required (age appropriate)
Ohio	Required (age appropriate)
Oklahoma	Required (age appropriate)
Oregon	Required (age appropriate)
Palau	Did not report requirements
Pennsylvania	Required (age appropriate)
Puerto Rico	1 dose (at least after age 15 months)
Rhode Island	Required (age appropriate)
South Carolina	Required (age appropriate)
South Dakota	Required (age appropriate following ACIP recommendations)
Tennessee	Required (age appropriate)
Texas	Required (age appropriate or 1 dose after age 15 months)
Utah	Required (age appropriate)
Vermont	Required (age appropriate)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Required (age appropriate)
Washington	Required (age appropriate)
West Virginia	1 dose (age appropriate)
Wisconsin	2 doses (ages 5-15 months); 3 doses (ages 16 months-4 years)
Wyoming	1 dose (ages 18-60 months)

Human Papillomavirus (HPV)
2007-2008 Requirements for Middle School

STATE	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	Not required
American Samoa	Not required
Arizona	Not required
Arkansas	Not required
California	Not required
Colorado	Not required
Connecticut	Not required
Delaware	Not required
District of Columbia	Not required (Education)
Federated States/Micronesia	Did not report requirements
Florida	Not required
Georgia	Not required
Guam	Not required
Hawaii	Not required
Idaho	Not required
Illinois	Not required
Indiana	Not required (Educational materials grade 6)
Iowa	Not required
Kansas	Not required
Kentucky	Not required
Louisiana	Not required
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	Not required
Massachusetts	Not required (recommended)
Michigan	Not required
Minnesota	Not required
Mississippi	Not required
Missouri	Not required
Montana	Not required
N. Mariana Islands	Not required
Nebraska	Not required
Nevada	Not required
New Hampshire	Not required
New Jersey	Not required
New Mexico	Not required
New York	Not required
North Carolina	Not required (recommended)
North Dakota	Not required
Ohio	Not required
Oklahoma	Not required
Oregon	Not required (recommended)
Palau	Did not report requirements
Pennsylvania	Not required
Puerto Rico	Not required (recommended)
Rhode Island	Not required
South Carolina	Not required
South Dakota	Not required
Tennessee	Not required
Texas	Not required
Utah	Not required
Vermont	Not required
Virginia	Not required (2009 requirement for grade 6)
Washington	Not required (recommended)
West Virginia	Not required
Wisconsin	Not required
Wyoming	Not required

Measles, Mumps, and Rubella (MMR)
2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	1 dose (after age 1 year)
Alaska	1 dose (on or after age 1 year)
American Samoa	1 dose (at age 15 months)
Arizona	1 dose (after age 1 year)
Arkansas	1 dose (after age 1 year)
California	1 dose (after age 1 year)
Colorado	1 dose (by age 15 months)
Connecticut	1 dose (after age 1 year) or proof of immunity
Delaware	1 dose (measles after age 15 months; mumps and rubella after age 12 months)
District of Columbia	1 dose (after age 1 year), 2 doses (at age 4 years)
Federated States/Micronesia	Did not report requirements
Florida	1 dose (after age 1 year)
Georgia	1 dose (after age 1 year)
Guam	2 doses (age appropriate; after age 1 year; dose 2 between ages 4-6 years)
Hawaii	1 dose (at or after age 1 year)
Idaho	2 doses (age appropriate; after age 1 year; dose 2 between ages 4-6 years)
Illinois	1 dose (after age 1 year)
Indiana	1 dose (after age 1 year)
Iowa	1 dose (after age 1 year): measles and rubella; mumps not required
Kansas	1 dose (after age 1 year)
Kentucky	1 dose (after age 16 months)
Louisiana	1 dose (after age 1 year)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	1 dose (after age 1 year)
Massachusetts	1 dose (after age 1 year)
Michigan	1 dose (after age 1 year)
Minnesota	1 dose (after age 1 year)
Mississippi	1 dose (after age 1 year)
Missouri	1 dose (following ACIP recommendations)
Montana	1 dose (after age 1 year)
N. Mariana Islands	2 doses
Nebraska	1 dose (after age 1 year)
Nevada	1 dose (after age 1 year)
New Hampshire	1 dose (after age 1 year)
New Jersey	1 dose (at age 16-19 months)
New Mexico	1 dose (after age 1 year)
New York	1 dose (at age 1 year no earlier than 4 days before age 1 year) or proof of immunity (med provider diag or pos sero test)
North Carolina	1 dose (after age 1 year)
North Dakota	Required (age appropriate)
Ohio	1 dose (after age 1 year)
Oklahoma	1 dose (after age 1 year)
Oregon	1 dose (after age 1 year)
Palau	Did not report requirements
Pennsylvania	1 dose (after age 1 year)
Puerto Rico	1 dose (after age 1 year)
Rhode Island	1 dose (after age 1 year)
South Carolina	1 dose (after age 1 year)
South Dakota	1 dose (after age 1 year)
Tennessee	1 dose (after age 1 year)
Texas	1 dose (age appropriate on or after age 1 year)
Utah	1 dose (after age 1 year)
Vermont	Required (age appropriate)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	1 dose (after age 1 year)
Washington	1 dose (after age 1 year)
West Virginia	1 dose (on or after age 1 year): measles and rubella; mumps not required
Wisconsin	1 dose (after age 1 year)
Wyoming	1 dose (after age 1 year)

Measles, Mumps, and Rubella (MMR)

2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	1 dose (after age 1 year)
Alaska	1 dose (on or after age 1 year)
American Samoa	1 dose (K-3)
Arizona	2 doses (after age 1 year)
Arkansas	2 doses (dose 1 on or after age 1 year, dose 2 at least 28 days after dose 1) : measles containing vaccine; 1 dose mumps and rubella (on or after age 1 year)
California	2 doses (on or after age 1 year): measles-containing vaccine
Colorado	2 doses
Connecticut	1 dose (after age 1 year) or proof of immunity
Delaware	1 dose (after age 15 months): measles; 1 dose (after age 1 year): mumps and rubella
District of Columbia	1 dose (after age 1 year); 2 doses (at age 4 years)
Federated States/Micronesia	Did not report requirements
Florida	1 dose (after age 1 year)
Georgia	1 dose (after age 1 year)
Guam	2 doses (on or after age 1 year)
Hawaii	2 doses (on or after age 1 year): measles-containing vaccine (with at least 1 dose of MMR)
Idaho	2 doses (after age 1 year)
Illinois	1 dose (after age 1 year)
Indiana	2 doses (after age 1 year): measles; 1 dose mumps and rubella
Iowa	1 dose (after age 1 year): measles and rubella; mumps not required
Kansas	1 dose (after age 1 year)
Kentucky	1 dose
Louisiana	1 dose (after age 1 year)
Maine	1 dose (after age 1 year)
Marshall Islands	Did not report requirements
Maryland	1 dose (after age 1 year)
Massachusetts	1 dose (after age 1 year)
Michigan	2 doses (on or after age 1 year)
Minnesota	2 doses (after age 1 year)
Mississippi	2 doses (after age 1 year)
Missouri	2 doses (following ACIP recommendations)
Montana	2 doses (after age 1 year)
N. Mariana Islands	2 doses
Nebraska	2 doses (on or after age 1 year; 1 month between doses)
Nevada	1 dose (after age 1 year)
New Hampshire	1 dose (after age 1 year)
New Jersey	1 dose (on or after age 1 year)
New Mexico	2 doses
New York	2 doses or proof of immunity (medical provider diagnosis or positive serological test)
North Carolina	2 doses: measles and mumps; 1 dose: rubella (all after age 1 year)
North Dakota	Required (age appropriate)
Ohio	1 dose (on or after age 1 year)
Oklahoma	2 doses (age appropriate)
Oregon	1 dose (after age 1 year)
Palau	Did not report requirements
Pennsylvania	2 doses
Puerto Rico	2 doses
Rhode Island	2 doses
South Carolina	1 dose (after age 1 year)
South Dakota	2 doses (after age 1 year)
Tennessee	1 dose (after age 1 year)
Texas	1 dose (after age 1 year)
Utah	2 doses (after age 1 year)
Vermont	1 dose (after age 1 year): measles and rubella; mumps not required
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	1 dose (after age 1 year)
Washington	1 dose (after age 1 year)
West Virginia	1 dose (on or after age 1 year): measles and rubella; mumps not required
Visconsin	1 dose (after age 1 year)
Wyoming	1 dose (on or after age 1 year)

Measles 2nd Dose
2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Required
Alaska	Required
American Samoa	Required (for K-4 and up)
Arizona	Required: MMR
Arkansas	Required (at least 28 days after dose 1): measles-containing vaccine
California	Required (on or after age 1 year): measles-containing vaccine
Colorado	Required
Connecticut	Required or proof of immunity acceptable
Delaware	Required (after age 4 years)
District of Columbia	Required (at age 4 years): MMR
Federated States/Micronesia	Did not report requirements
Florida	Required
Georgia	Required (2 doses mumps required)
Guam	Required
Hawaii	Required (2 doses measles containing vaccine with at least 1 dose of MMR)
Idaho	Required (after age 1 year)
Illinois	Required
Indiana	Required
Iowa	Required (no less than 28 days after dose 1)
Kansas	Required: MMR
Kentucky	Required
Louisiana	Required
Maine	Required (at least 4 weeks after dose 1)
Marshall Islands	Did not report requirements
Maryland	Required
Massachusetts	Required
Michigan	Required (at least 28 days after dose 1); dose 2 of mumps and rubella (at least 28 days after dose 1)
Minnesota	Required: MMR
Mississippi	Required
Missouri	Required: MMR (following ACIP recommendations)
Montana	Required: MMR
N. Mariana Islands	Required
Nebraska	Required (at least 28 days after dose 1)
Nevada	Required
New Hampshire	Required
New Jersey	Required (at least 28 days after dose 1): live measles-containing vaccine
New Mexico	Required
New York	Required or proof of immunity (medical provider diagnosis or positive serological test)
North Carolina	Required
North Dakota	Required (age appropriate)
Ohio	Required
Oklahoma	Required (at least 28 days after dose 1)
Oregon	Required (at least 28 days after dose 1)
Palau	Did not report requirements
Pennsylvania	Required
Puerto Rico	Required
Rhode Island	Required: MMR
South Carolina	Required
South Dakota	Required
Tennessee	Required
Texas	Required
Utah	Required
Vermont	Required
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Required
Washington	Required (after age 1 year)
West Virginia	Required
Wisconsin	Required: MMR
Wyoming	Required: MMR

Measles 2nd Dose

2007-2008 Requirements for Middle School

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Required
Alaska	Required
American Samoa	Required
Arizona	Required
Arkansas	Required
California	Required
Colorado	Required
Connecticut	Required
Delaware	Required (new entrants)
District of Columbia	Required (at age 4 years): MMR
Federated States/Micronesia	Did not report requirements
Florida	Required
Georgia	Required (grade 6 entry); 2 doses mumps required
Guam	Required
Hawaii	Required (grade 7 entry and new entrants to HI schools)
Idaho	Required
Illinois	Required
Indiana	Required
Iowa	Required
Kansas	Required
Kentucky	Required
Louisiana	Required (new entrants)
Maine	Required
Marshall Islands	Did not report requirements
Maryland	Required
Massachusetts	Required
Michigan	Required (for grade 6 entry or new entrants to school district)
Minnesota	Required (for grade 7 entry)
Mississippi	Not required
Missouri	Required
ontana	Required (for grades 7-12, if not received at K)
N. Mariana Islands	Required
Nebraska	Required
Nevada	Required
New Hampshire	Required (prior to entering grade 7)
New Jersey	Required (2 doses if born on or after 1/1/1990); 1 dose mumps and rubella required
New Mexico	Required
New York	Required or proof of immunity (medical provider diagnosis or positive serological test)
North Carolina	Required
North Dakota	Required
Ohio	Required
Oklahoma	Required
Oregon	Required
Palau	Did not report requirements
Pennsylvania	Required
Puerto Rico	Required
Rhode Island	Required
South Carolina	Required
South Dakota	Required
Tennessee	Required
Texas	Required
Utah	Required
Vermont	Required
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Required
Washington	Required
West Virginia	Required (for out-of-state transfer students)
Wisconsin	Required
Wyoming	Required (prior to entry to grade 7 and transfer students)

Meningococcal Conjugate Vaccine (MCV4)
2007-2008 Requirements for Middle School

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	Not required
American Samoa	Not required
Arizona	Not required
Arkansas	Not required
California	Not required
Colorado	Not required
Connecticut	Not required
Delaware	Not required
District of Columbia	Not required
Federated States/Micronesia	Did not report requirements
Florida	Not required
Georgia	Not required
Guam	Not required
Hawaii	Not required
Idaho	Not required
Illinois	Not required
Indiana	Not required
Iowa	Not required
Kansas	Not required (recommended)
Kentucky	Not required
Louisiana	Not required
Maine	Not required
Marshall Islands	Did not report requirements
Maryland	Not required
Massachusetts	Not required (recommended); (Required for newly enrolled full time residential students)
Michigan	Not required
Minnesota	Not required
Mississippi	Not required
Missouri	Not required
Montana	Not required
N. Mariana Islands	Not required
Nebraska	Not required
Nevada	Not required
New Hampshire	Not required
New Jersey	Not required
New Mexico	Not required
New York	Not required
North Carolina	Not required
North Dakota	Not required
Ohio	Not required
Oklahoma	Not required
Oregon	Not required (recommended)
Palau	Did not report requirements
Pennsylvania	Not required
Puerto Rico	Not required (recommended)
Rhode Island	Not required
South Carolina	Not required
South Dakota	Not required
Tennessee	Not required
Texas	Not required
Utah	Not required
Vermont	Not required (recommended)
Virginia	Not required
Washington	Not required
West Virginia	Not required
Wisconsin	Not required
Wyoming	Not required

Pneumococcal Conjugate Vaccine (PCV)
2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Not required
Alaska	Not required
American Samoa	Not required
Arizona	Not required
Arkansas	Not required (will be a requirement in 2008)
California	Not required (recommended)
Colorado	1-4 doses (depending on age)
Connecticut	Required (age appropriate)
Delaware	Not required
District of Columbia	Not required
Federated States/Micronesia	Did not report requirements
Florida	Required (age appropriate under age 5 years)
Georgia	Not required
Guam	Not required
Hawaii	Not required
Idaho	Not required
Illinois	1-4 doses (age appropriate)
Indiana	1-4 doses (age appropriate)
Iowa	3 doses
Kansas	Not required (recommended)
Kentucky	Not required
Louisiana	Required (under age 24 months)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	Required (age appropriate)
Massachusetts	Not required (recommended)
Michigan	Required (age appropriate)
Minnesota	Required (age appropriate for ages 2-24 months)
ississippi	Required (age appropriate)
issouri	Not required
Montana	Not required
N. Mariana Islands	4 doses
Nebraska	Required (age appropriate)
Nevada	Not required
New Hampshire	Not required
New Jersey	Not required
New Mexico	Not required
New York	Required (if born after 01/01/2008)
North Carolina	Not required
North Dakota	Not required
Ohio	Not required
Oklahoma	1-4 doses (depending on age)
Oregon	Not required (recommended)
Palau	Did not report requirements
Pennsylvania	Required (age appropriate)
Puerto Rico	4 doses (age 15 months)
Rhode Island	Required (age appropriate)
South Carolina	Required (age appropriate)
South Dakota	Not required (recommended)
Tennessee	Not required
Texas	Required (age appropriate)
Utah	Not required
Vermont	Not required (recommended)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Required (age appropriate for less than age 2 years)
Washington	Not required (recommended)
West Virginia	1 dose (age appropriate)
isconsin	Not required
oming	Required (age appropriate)

Polio
2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	1 dose (age appropriate)
Alaska	3 doses (age appropriate)
American Samoa	3 doses (ages 2,4,6 months); 4 doses (ages 4-6 years)
Arizona	3 doses (age appropriate)
Arkansas	Required (age appropriate)
California	3 doses (age appropriate)
Colorado	3 doses (dose 1 by age 4 months, dose 2 by age 6 months, dose 3 by age 8 months)
Connecticut	Required (age appropriate before age 18 months); 3 doses (after age 18 months)
Delaware	Required (age appropriate)
District of Columbia	4 doses (age appropriate; dose 3 by ages 6-12 months; dose 4 by or before age 4 years; fewer doses required based on age)
Federated States/Micronesia	Did not report requirements
Florida	Required (age appropriate)
Georgia	3-4 doses (or age appropriate)
Guam	1 dose minimum (age appropriate and must receive all follow-up doses by age recommendations)
Hawaii	3 doses (age appropriate)
Idaho	3 doses (age appropriate; more doses may be required)
Illinois	2 doses (by age 1 year); 3 doses (if age 2 years or older)
Indiana	1-3 doses (age appropriate)
Iowa	3 doses
Kansas	4 doses (3 doses if dose 3 after age 4 years)
Kentucky	Required (age appropriate)
Louisiana	Required (age appropriate)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	Required (age appropriate)
Massachusetts	3 doses (minimum; age appropriate)
Michigan	Required (age appropriate under age 15 months); 3 doses (ages 15 months-5 years)
Minnesota	Required (age appropriate under age 15 months); 3 doses (ages 15 months-4 years); 4 doses (over age 4 years)
Mississippi	Required (age appropriate)
Missouri	Required (age appropriate following ACIP recommendations)
Montana	Required (age appropriate)
N. Mariana Islands	3 doses
Nebraska	3 doses (maximum; age appropriate)
Nevada	Required (age appropriate)
New Hampshire	3 doses (age appropriate)
New Jersey	2 doses (age appropriate under age 17 months); 3 doses (ages 18 months-4 years)
New Mexico	Required (age appropriate following ACIP recommendations)
New York	3 doses (age appropriate)
North Carolina	Required (age appropriate following ACIP recommendations)
North Dakota	3 doses (minimum; age appropriate)
Ohio	3 doses
Oklahoma	4 doses (age appropriate); 3 doses (if dose 3 given after age 4 years)
Oregon	3 doses (age appropriate)
Palau	Did not report requirements
Pennsylvania	Required (age appropriate)
Puerto Rico	Required (age appropriate)
Rhode Island	Required (age appropriate)
South Carolina	Required (age appropriate)
South Dakota	Required (age appropriate following ACIP recommendations)
Tennessee	Required (age appropriate)
Texas	Required (age appropriate)
Utah	Required (age appropriate)
Vermont	Required (age appropriate)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	3 doses (age appropriate)
Washington	1 dose (ages 3-4 months); 2 doses (ages 5-18 months); 3 doses (at or after age 19 months)
West Virginia	3 doses (age appropriate; dose 3 after age 18 months)
Wisconsin	2 doses (ages 5-23 months); 3 doses (ages 2-4 years)
Wyoming	Required (age appropriate)

Polio
2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	3 doses (last dose after age 4 years)
Alaska	3 doses (4 doses recommended unless last dose is after age 4 years)
American Samoa	3 doses (for K3); 4 doses (K4 and above)
Arizona	4 doses (3 doses if dose 3 is after age 4 years)
Arkansas	3 doses (at least 1 dose on or after age 4 years)
California	3-4 doses (age appropriate)
Colorado	4 doses (new entrants; 3 doses if dose 3 is on or after age 4 years)
Connecticut	3 doses (last dose after age 4 years)
Delaware	4 doses (3 doses if dose 3 is after age 4 years)
District of Columbia	4 doses (age appropriate; dose 3 by ages 6-12 months; dose 4 at age 4 years, fewer doses may be required based on age)
Federated States/Micronesia	Did not report requirements
Florida	4 doses (3 doses if dose 3 is after age 4 years)
Georgia	3 doses (last dose on or after age 4 years)
Guam	1 dose minimum (for school entry, but must receive all follow-up doses needed to complete the series)
Hawaii	4 doses (3 doses if dose 3 is on or after age 4 years; 4 doses if combination IPV/OPV administered)
Idaho	3 doses
Illinois	3 doses (last dose after age 4 years)
Indiana	4 doses (3 doses if dose 3 is after age 4 years)
Iowa	3 doses (last dose after age 4 years)
Kansas	4 doses (3 doses if dose 3 is after age 4 years)
Kentucky	4 doses
Louisiana	4 doses (last dose after age 4 years)
Maine	Required (age appropriate)
Marshall Islands	Did not report requirements
Maryland	3 doses
Massachusetts	4 doses (3 doses if dose 3 is after age 4 years; 4 doses required if combination IPV/OPV administered)
Michigan	4 doses (3 doses if dose 3 is after age 4 years)
Minnesota	4 doses (3 doses if dose 3 is after age 4 years)
‘ississippi	3 doses (last dose after age 4 years)
ıissouri	3 doses (following ACIP recommendations)
Montana	3 doses (last dose after age 4 years)
N. Mariana Islands	4 doses
Nebraska	3 doses
Nevada	3 doses (last dose after age 4 years)
New Hampshire	3 doses (last dose after age 4 years; 4 doses if eIPV or OPV administered regardless of age)
New Jersey	3 doses (last dose after age 4 years or any 4 doses)
New Mexico	3 doses (all OPV or all IPV administered or 4 doses if combination IPV/OPV administered)
New York	3 doses
North Carolina	4 doses (last dose after age 4 years and before school entry or 3 doses if dose 3 is after age 4 years)
North Dakota	4 doses (age appropriate; 3 doses if dose 3 is after age 4 years)
Ohio	4 doses (3 doses if dose 3 is after age 4 years)
Oklahoma	4 doses (3 doses if dose 3 is after age 4 years)
Oregon	4 doses (3 doses if dose 3 is after age 4 years)
Palau	Did not report requirements
Pennsylvania	3 doses
Puerto Rico	4 doses (3 doses if dose 3 is after age 4 years)
Rhode Island	4 doses
South Carolina	3 doses (last dose after age 4 years)
South Dakota	3 doses (at least 1 dose after age 4 years)
Tennessee	4 doses (1 dose after age 4 years)
Texas	4 doses (3 doses if dose 3 is on or after age 4 years)
Utah	4 doses (3 doses if dose 3 is after age 4 years)
Vermont	3 doses (6 months between doses 2 and 3)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	3 doses (last dose after age 4 years)
Washington	3 doses (last dose after age 4 years)
West Virginia	3 doses (last dose on or after age 4 years)
‘‘‘isconsin	4 doses (3 doses if dose 3 is after age 4 years)
›ming	4 doses (new entrants must have 4th dose after age 4 years)

Varicella

2007-2008 Requirements for Childcare

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	1 dose (after age 1 year) or physician or lab documented disease history
Alaska	1 dose (after age 1 year) or documented history of disease
American Samoa	Not required
Arizona	1 dose (after age 1 year) or documented history of disease
Arkansas	1 dose (on or after age 1 year) or verbal history of disease documented on record
California	1 dose (ages 18 months-4 years) or physician documented disease history
Colorado	1 dose (by age 15 months) or health care provider documented history of disease
Connecticut	1 dose (after age 1 year) or proof of immunity
Delaware	Required (age appropriate)
District of Columbia	1 dose (after age 1 year) or positive varicella disease history
Federated States/Micronesia	Did not report requirements
Florida	1 dose or history of disease from physician or parent recall
Georgia	1 dose (after age 1 year)
Guam	Not required
Hawaii	1 dose (on or after age 1 year and by age 19 months) or documented history of disease
Idaho	Not required
Illinois	1 dose (if over age 2 years)
Indiana	1 dose or parent or physician document history of disease
Iowa	1 dose or reliable history of natural disease
Kansas	Not required (recommended)
Kentucky	1 dose (if > age 19 months to < age 7 years)
Louisiana	Required
Maine	Required (age appropriate) or physician documented history
Marshall Islands	Did not report requirements
Maryland	1 dose (after age 1 year)
Massachusetts	1 dose (age 19 months or older) or physician-certified proof of immunity
Michigan	1 dose (after age 1 year) or history of disease
Minnesota	1 dose (age 18 months or older)
Mississippi	1 dose (after age 1 year)
Missouri	1 dose (after age 1 year) or history of disease
Montana	1dose
N. Mariana Islands	1 dose
Nebraska	1 dose (after age 1 year) or history of disease from physician or parent
Nevada	Not required
New Hampshire	1 dose (at age 19 months)
New Jersey	1 dose (on or after age 1 year) or documented history of disease
New Mexico	1 dose (at age 16-19 months) or proof of immunity
New York	1 dose or documented history of disease
North Carolina	1 dose (after age 1 year) or documented history of disease, if born on or after 04/01/2001
North Dakota	1 dose (age appropriate) or documented proof of immunity
Ohio	Not required (recommended)
Oklahoma	1 dose (on or after age 1 year) or parental history of disease
Oregon	1 dose or parent-signed history of disease
Palau	Did not report requirements
Pennsylvania	Required (age appropriate) or history of disease
Puerto Rico	2 doses (if born after 1997; dose 2 at age 4 years) or proof of immunity
Rhode Island	Required (age appropriate) or proof of immunity
South Carolina	Required (age appropriate)
South Dakota	Not required (recommended)
Tennessee	1 dose (after age 1 year) or a history of disease provided by parent or physician
Texas	1 dose (age appropriate; on or after age 1 year) or documented history of disease
Utah	Not required
Vermont	Not required (recommended)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	1 dose (no earlier than age 1 year) or documented proof of immunity
Washington	1 dose
West Virginia	1 dose (after age 1 year) or history of disease
Wisconsin	1 dose (ages 2-4 years) or prior history of disease
Wyoming	Not required

Varicella

2007-2008 Requirements for Kindergarten

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	1 dose (after age 1 year) or physician or lab documented disease history
Alaska	Not required
American Samoa	Not required
Arizona	1 dose (after age 1 year) or documented history of disease
Arkansas	1 dose (on or after age 1 year) or verbal history disease documented on record
California	1 dose or physician documented disease history
Colorado	2 doses or health care provider documented history of disease
Connecticut	1 dose (after age 1 year) or proof of immunity
Delaware	1 dose
District of Columbia	1 dose (at age 1 year) or positive varicella disease history
Federated States/Micronesia	Did not report requirements
Florida	1 dose or history of disease (physician diagnosed or parental recall)
Georgia	2 doses
Guam	Not required
Hawaii	1 dose (on or after age 1 year) or documented history of disease
Idaho	Not required
Illinois	1 dose (on or after age 1 year)
Indiana	1 dose or parent or physician documented history of disease
Iowa	1 dose or reliable history of natural disease
Kansas	2 doses (after age 1 year)
Kentucky	1 dose or previous history of disease
Louisiana	Required
Maine	1 dose or physician documented history
Marshall Islands	Did not report requirements
Maryland	1 dose
Massachusetts	Required or physician-certified proof of immunity
Michigan	1 dose (on or after age 1 year) or history of disease
Minnesota	Required or history of disease
Mississippi	2 doses (after age 1 year)
Missouri	1 dose (after age 1 year) or history of disease
Montana	Not required
N. Mariana Islands	1 dose
Nebraska	1 dose (after age 1 year) or history of disease from physician or parent
Nevada	Required (new school entrants)
New Hampshire	1 dose (on or after age 1 year) or history of disease reported by parent or health care provider
New Jersey	1 dose (on or after age 1 year) or documented history of disease
New Mexico	Required or proof of immunity
New York	1 dose or documented history of disease
North Carolina	1 dose (after age 1 year) or documented history of disease, if born on or after 04/01/2001
North Dakota	1 dose (age appropriate) or documented proof of immunity
Ohio	1 dose (progressive requirement each year)
Oklahoma	1 dose (on or after the age 1 year) or parental history of disease
Oregon	1 dose or parent-signed history of disease
Palau	Did not report requirements
Pennsylvania	Required (age appropriate) or history of disease
Puerto Rico	2 doses (if born after 1997; dose 2 at age 4 years) or proof of immunity
Rhode Island	1 dose (after age 1 year) or proof of immunity
South Carolina	2 doses (age appropriate)
South Dakota	2 doses (after age 1 year) or parental history of disease
Tennessee	1 dose (after age 1 year) or history of disease provided by parent or physician
Texas	1 dose (after age 1 year) or documented history of disease
Utah	Required
Vermont	Not required (recommended)
Virgin Islands	2 doses
Virginia	1 dose (after age 1 year) or documented proof of immunity
Washington	Required (age appropriate)
West Virginia	Not required
Wisconsin	1 dose or prior history of disease
Wyoming	Not required

Varicella

2007-2008 Requirements for Middle School

	DOSAGE REQUIREMENTS AND COMMENTS
Alabama	Required (grades 5-7 entry requirement; yearly grade increase until 2013) or physician or lab diagnosed disease history
Alaska	Not required
American Samoa	Not required
Arizona	Not Required (grade 7 entry requirement in 2008) or documented history of disease
Arkansas	Required (grade 7 only); 1 dose (before age 13 years); 2 doses (at least 28 days after dose 1, if age 13 years or older) or verbal history of disease
California	Required (only for children who entered CA schools on or after July 1, 2001)
Colorado	1 dose (grades 2-8) or health care provider documented history of disease
Connecticut	1 dose (if < age 13 years); 2 doses (4 weeks apart for ages 13 years and older); or must show proof of immunity
Delaware	Not required (grade 6 will begin in 2009)
District of Columbia	1 dose (at age 1 year); 2 doses (if dose 1 at age 13 years or older); or positive varicella disease history
Federated States/Micronesia	Did not report requirements
Florida	Not required
Georgia	Required (for all entrants into grade 6)
Guam	Not required
Hawaii	1 dose (grade 7 entry and new entrants to HI schools); 2 doses (if dose 1 dose is on or after age 13 years); or documented history of disease
Idaho	Not required
Illinois	Not required
Indiana	Not required
Iowa	Not required
Kansas	Not required (recommended)
Kentucky	Not required
Louisiana	Required (new entrants only)
Maine	1 dose (if < age 13 years); 2 doses (age 13 years or older); or physician documented history
Marshall Islands	Did not report requirements
Maryland	Required (K-grade 10)
Massachusetts	1 dose (before age 13 years); 2 doses (age 13 years or older); or physician-certified proof of immunity
Michigan	1 dose (between ages 1-13 years); 2 doses (28 days apart if dose 1 is on or after age 13 years); or history of disease
Minnesota	Required (grade 7 only) or history of disease
Mississippi	Not required
Missouri	Not required
Montana	Not required
N. Mariana Islands	2 doses
Nebraska	1 dose (age 13 years or under); 2 doses (if > age 13 years); or history of disease from physician or parent
Nevada	Required (new school entrants)
New Hampshire	1 dose (before grade 6) or history of disease from parent or health care provider
New Jersey	1 dose (if born on or after 1/1/1998; new entrants or transfers to NJ schools) or documented proof of immunity
New Mexico	Not required
New York	1 dose (for grade 6 if born on or after 1/1/1994) or documented history of disease
North Carolina	Required or documented history of disease
North Dakota	Not required
Ohio	Not required
Oklahoma	1 dose (after age 1 year for grades K-7) or parental documentation of history of disease
Oregon	Required or parent-signed history of disease
Palau	Did not report requirements
Pennsylvania	Required (age appropriate for grade 7) or history of disease
Puerto Rico	2 doses (if born after 1997; dose 2 at age 4 years) or proof of immunity
Rhode Island	Required or proof of immunity
South Carolina	Not required (proof of immunity required for grades 6 and 7)
South Dakota	Not required
Tennessee	Not required
Texas	1 dose (before age 13 years); 2 doses (age 13 years and over) or documented history of disease
Utah	1 dose or history of disease
Vermont	Not required (recommended)
Virgin Islands	Required (age appropriate following ACIP recommendations)
Virginia	Not required
Washington	1 dose
West Virginia	Not required
Wisconsin	1 dose (before age 13 years); 2 doses (age 13 years or older); or prior history of disease
Wyoming	Not required

Grantee	Childcare and School Exemptions Allowed (2007 - 2008)			
	Medical			
	Temporary	Permanent	Religious	Philosophical
Alabama		X	X	
Alaska		X	X	
Arizona	X	X	**	*
Arkansas	X		X	X
California	X	X	X	X
Colorado	X	X	X	X
Connecticut		X	X	
Delaware	X	X	X	
District of Columbia	X	X	X	
Florida	X	X	X	
Georgia	X		X	
Guam	X	X	X	
Hawaii	X	X	X	
Idaho	X	X	X	X
Illinois		X	X	
Indiana^	X	X	X	
Iowa	X	X	X	
Kansas	X		X	
Kentucky	X	X	X	
Louisiana	X	X	X	X
Maine	X		X	X
Maryland	X	X	X	
Massachusetts	X	X	X	
Michigan	X	X	X	X
Minnesota	X	X	X	X
Mississippi	X	X		
Missouri		X	*	**
Montana	X	X	X	
Nebraska	X	X	X	**
Nevada	X	X	X	
New Hampshire	X		X	
New Jersey	X	X	X	
New Mexico	X	X	X	X
New York	X	X	X	
North Carolina	X	X	X	
North Dakota		X	X	X
Ohio	X	X	X	X
Oklahoma	X	X	X	X
Oregon	X	X	X	
Pennsylvania	X	X	X	
Puerto Rico	X	X	X	
Rhode Island	X	X	X	
South Carolina	X	X	X	
South Dakota		X	X	
Tennessee	X	X	X	
Texas	X	X	X	X
Utah	X	X	X	X
Vermont	X	X	X	X
Virginia	X	X	X	
Washington	X	X	X	X
West Virginia	X	X		
Wisconsin	X	X	X	X
Wyoming	X	X	X	

X Exemption allowed
* Allowed in schools only
** Allowed in childcare and head start facilities only
^ Medical exemptions are referred to as "Acute" and "Chronic"
Note: Federated States/Micronesia, Marshall Islands, Palau did not report requirements

State College/University Vaccination Entry Requirements^

Grantee	Vaccines Required							COMMENTS
	Hep B	HPV	MMR2	MCV4	Tdap	Td	VAR	
Alabama								
Alaska								
Arizona								
Arkansas			Yes*					*Incoming freshman and foreign students: 2 doses measles; 1 dose rubella
California	Yes							
Colorado			Yes	Yes*				*Incoming freshman resident students or waiver is to be signed.
Connecticut			Yes	Yes				
Delaware			Yes					
District of Columbia	Yes		Yes			Yes	Yes	
Florida	Yes			Yes				
Georgia	Yes		Yes			Yes	Yes	
Guam	Yes*		Yes			Yes		*Only for Nursing Students and Allied Health Students
Hawaii			Yes					
Idaho								
Illinois			Yes			Yes		
Indiana			Yes			Yes		
Iowa								
Kansas	Yes		Yes					
Kentucky								
Louisiana			Yes	Yes		Yes		
Maine			Yes			Yes		
Maryland				Yes				
Massachusetts	Yes		Yes	Yes*		Yes		*Newly enrolled full-time residential students
Michigan								
Minnesota			Yes			Yes		
Mississippi			Yes			Yes	Yes	
Missouri								
Montana			Yes					
N. Mariana Islands			Yes			Yes		
Nebraska								
Nevada			Yes			Yes		
New Hampshire								
New Jersey			Yes	Yes*				*New 4-year students in dorm setting; additional institution requirements may vary
New Mexico								
New York			Yes*					*2 Measles, 1 Mump, 1 Rubella, med provider diag M/M, or pos sero test M/M/R
North Carolina			Yes		Yes*	Yes		*Students enrolling for the first time after 07/01/2008 if 10 years since last Td/DTP
North Dakota			Yes					
Ohio								
Oklahoma	Yes		Yes	Yes				
Oregon			Yes*					*Measles only; mumps and rubella not required
Pennsylvania								
Puerto Rico	Yes		Yes		Yes	Yes		
Rhode Island	Yes		Yes			Yes	Yes	
South Carolina								
South Dakota			Yes			Yes		
Tennessee			Yes					
Texas	Yes		Yes			Yes	Yes	
Utah								
Vermont			Yes					
Virgin Islands	Yes		Yes			Yes	Yes	
Virginia	Yes		Yes	Yes		Yes		
Washington								
West Virginia								
Wisconsin								
Wyoming			Yes					

^Individual institutions may have additional requirements beyond those required by state law or regulation.

Immunization Program Websites

Alabama	http://www.adph.org/Immunization/Default.asp?id=538
Alaska	http://epi.alaska.gov/id/immune.stm
Arizona	http://www.azdhs.gov/phs/immun/index_schchld.htm
Arkansas	http://www.healthyarkansas.com/faq/faq_immunizations.html
California	http://www.dhs.ca.gov/ps/dcdc/izgroup/schools/default.htm
Colorado	http://www.cdphe.state.co.us/dc/Immunization/index.html
Connecticut	http://www.ct.gov/dph/cwp/view.asp?a=3136&q=388450&dphNav_GID=1601
Delaware	http://www.dhss.delaware.gov/dph/dpc/immunize-children.html
District of Columbia	http://doh.dc.gov/doh/cwp/view,a,1374,Q,580681,dohNav_GID,1824,.asp
Florida	http://www.doh.state.fl.us/disease_ctrl/immune/news/imm_guidelines.htm
Georgia	http://health.state.ga.us/programs/immunization/schools.asp
Hawaii	http://www.hawaii.gov/health/about/rules/11-157.pdf
Idaho	http://www.healthandwelfare.idaho.gov/portal/alias__Rainbow/lang__en-US/tabID__3383/DesktopDefault.aspx
Illinois	http://www.ilga.gov/commission/jcar/admincode/077/07700665sections.html
Indiana	http://www.in.gov/isdh/programs/immunization/SchoolRequirements/index_school_req.htm
Iowa	http://www.idph.state.ia.us/adper/immunization.asp
Kansas	http://www.kdheks.gov/immunize/schoolInfo.htm
Kentucky	http://chfs.ky.gov/dph/epi/immunizationprograms.htm
Louisiana	http://www.dhh.louisiana.gov/offices/?ID=265
Maine	http://www.maine.gov/dhhs/boh/ddc/_immunization/school_requirements.html
Maryland	http://www.edcp.org/html/schoolrequire.html
Massachusetts	http://www.mass.gov/dph/cdc/epii/imm/imm.htm#school
Michigan	http://www.michigan.gov/mdch/0,1607,7-132-2942_4911_4914---,00.html
Minnesota	http://www.health.state.mn.us/divs/idepc/immunize/laws/schlaw.html
Mississippi	http://www.msdh.state.ms.us/msdhsite/_static/14,0,71,303.html
Missouri	http://www.dhss.mo.gov/Immunizations
Montana	http://www.dphhs.mt.gov/PHSD/Immunization/immune-resource.shtml
Nebraska	http://www.dhhs.ne.gov/hew/fah/imm/immindex.htm
Nevada	http://health.nv.gov/index.php?option=com_content&task=view&id=54&Itemid=109
New Hampshire	http://www.dhhs.state.nh.us/DHHS/IMMUNIZATION/LIBRARY/Best+Practice/immunizations-info.htm
New Jersey	http://nj.gov/health/cd/vpdphome.htm and http://nj.gov/health/cd/chap14.pdf
New Mexico	http://www.health.state.nm.us/immunize/Pages/Public/sched/sched.html
New York	http://www.health.state.ny.us/prevention/immunization/recommendations/immunization_requirements/
North Carolina	http://www.immunizenc.com/Schools.htm
North Dakota	http://www.ndhealth.gov/Immunize/Schools-Daycares/Schools-DayCares.htm
Ohio	http://www.odh.ohio.gov/odhPrograms/idc/immunize/cliloc.aspx
Oklahoma	http://www.ok.gov/health/Disease,_Prevention,_Preparedness/Immunizations/
Oregon	http://oregon.gov/DHS/ph/imm/school/index.shtml
Pennsylvania	http://www.health.state.pa.us
Puerto Rico	http://www.salud.gov.pr
Rhode Island	http://www.health.ri.gov/family/immunization/requirements.php
South Carolina	http://www.scdhec.gov/health/disease/immunization/immunizations.htm
South Dakota	http://doh.sd.gov/Immunize/School.aspx
Tennessee	http://health.state.tn.us/Ceds/required.htm
Texas	http://www.dshs.state.tx.us/immunize/school/default.shtm
Utah	http://www.immunize-utah.org/provider/school/default.htm
Vermont	http://healthvermont.gov/hc/imm/index.aspx
Virgin Islands	http://www.healthvi.com/index.php?page_id=92
Virginia	http://www.vdh.state.va.us/epidemiology/immunization/requirements.htm
Washington	http://www.doh.wa.gov/cfh/immunize/schools.htm
West Virginia	http://www.wvdhhr.org/immunizations/school_entryrecomm.asp
Wisconsin	http://www.dhfs.wisconsin.gov/immunization/pdf/PPH4021_02_08.pdf
Wyoming	www.immunizewyoming.com

Please note: These are the websites as of 3/2008, and they are subject to changes and updates made by the state immunization program.

For additional information about school vaccinations, please visit the CDC website
http://www.cdc.gov/vaccines/stats-surv/schoolsurv/default.htm

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A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs

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SPECIAL ARTICLE

A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs

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ABSTRACT

Several new vaccines for children and young adults have been introduced recently and now appear on the Advisory Committee on Immunization Practices' recommended childhood and adolescent immunization schedule (meningococcal, rotavirus, human papillomavirus). As new vaccines are introduced, states face complex decisions regarding which vaccines to fund and which vaccines to require for school or child care entry. This complexity is evidenced by the current debate surrounding the human papillomavirus vaccine. We present a critique to the approach and criteria for evaluating vaccines for inclusion in mandatory school immunization programs that have been adopted by the Washington State Board of Health by illustrating how these criteria might be applied to the human papillomavirus vaccine. We conclude that these 9 criteria can help ensure a deliberate and informed approach to important public policy decisions, but we argue that several clarifications of the review process are needed along with the addition of a 10th criterion that ensures that a new vaccine mandate relates in some manner to increasing safety in the school environment. *Pediatrics* 2008;122:e504–e510

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Key Words
ethics, health policy, human papillomavirus, immunizations

Abbreviations
HPV—human papillomavirus
ACIP—Advisory Committee on Immunization Practices
IAC—immunization advisory committee
TAG—technical advisory group

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REQUIRING VACCINATION FOR school entrance in the United States has historically aimed to prevent outbreaks of vaccine-preventable illness at school.[1,2] As such, mandatory vaccination policies have led to a significant decrease in the incidence of many vaccine-preventable diseases.[3] This success can be attributed to the effectiveness of the vaccines themselves and to having learned several policy lessons along the way; for instance, mandatory vaccination can be effective only if there is a reliable supply of safe vaccine, if governments are willing and able to bear the burden of ensuring vaccine safety and enforcing mandates,[1] and if individual freedoms are weighed against public benefits.[4–6]

Currently, 4 to 7 vaccines, varying by state, have been made mandatory for school entrance.[7] Effective in 2009, Virginia will make receipt of the human papillomavirus (HPV) vaccine mandatory for girls who are entering the sixth grade, and many other states are considering similar state legislation and regulation.[8] The Texas governor, for example, issued an executive order that mandated receipt of the HPV vaccine, but it was later overturned by the Texas legislature.[9]

As legislation is being deliberated, there has been growing discussion of the appropriateness of requiring versus recommending the HPV vaccine.[4,5,10–14] Some have argued against a mandate of this vaccine because of the lack of experience with it at this early stage in its implementation.[8] Others have cited concerns for autonomy[11] or the fact that the vaccine's primary justification is not to "prevent immediate harm to others."[10] Those in support of linking the HPV vaccine to school entrance refer to the important role that school mandates have played in raising immunization rates.[8]

As this debate continues, it is important to distinguish between recommending a vaccine (as the Advisory Committee on Immunization Practices [ACIP] does), deciding whether state funds will be used to pay for the vaccine (encouraging vaccine uptake by eliminating cost to recipients), requiring vaccination of a state's citizens as a public health measure (compelled administration), and making school attendance in a state contingent on receiving a vaccine (school mandate). A decision to recommend vaccine administration is a different decision than a state encouraging vaccination by supplying the vaccine to qualified clinicians or compelling vaccination through a mandate. Finally, if states judge that the public health value is sufficient to justify compelled vaccination, whether school attendance is the appropriate mechanism for compulsion remains a separate issue.

In anticipation of the complex decisions that are involved in determining which vaccines ought to be included in school immunization requirements, the Washington State Board of Health established an immunization advisory committee (IAC) for the purpose of developing criteria that could be used in the selection of those vaccines that

would be required for school entry. Although some requisites for school immunization are available,[15] the 9 criteria developed by the IAC were meant to offer more specific requirements and to assist the board in making decisions about school mandates. These criteria could also be used to prioritize vaccine funding in a setting of limited resources. As states around the nation develop policy regarding the HPV vaccine, we offer a critique of the IAC's criteria and framework for vaccine review in an attempt to aid determinations of how to prioritize vaccine coverage.

THE WASHINGTON STATE BOARD OF HEALTH FRAMEWORK FOR VACCINE REVIEW

The Washington State Board of Health convened an IAC in December 2005 to recommend criteria that the state could use to evaluate which antigens to include in the required immunizations for entry into school or child care. The members of this committee included 2 of us (Drs Diekema and Marcuse); stakeholders from the fields of public health, school health, medicine, child advocacy, and medical ethics; and parents. The IAC met 3 times to develop the recommendations presented here, which were adopted by the board on June 14, 2006.[16]

In developing the criteria, the IAC endorsed the harm principle. The harm principle provides a basis for identifying the threshold at which state action is justified, as when a state decides to compel vaccination.[17] The government's authority in the health arena arises primarily from its constitutionally sanctioned "police power" to protect the public's health, welfare, and safety.[18] In *On Liberty*, Mill provided an ethical basis for the exercise of these police powers: "The only purpose for which power can rightfully be exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant."[19] Feinberg[20] further refined the harm principle by arguing that to be justified, restriction of an individual's freedom must be effective at preventing the harm in question, and no option that would be less intrusive to individual liberty would be equally effective at preventing the harm. Using the analyses of Mill and Feinberg, the IAC interpreted the harm principle broadly such that it would be justifiable to require a vaccine for children who are entering child care and/or school when without this vaccine any of the following would result: (1) an individual's decision to not vaccinate his or her own child could place another's health in jeopardy; (2) the state's economic interests could be threatened by the costs of care for vaccine-preventable illness, related disability, or death and by the cost of managing vaccine-preventable disease outbreaks; or (3) the state's duty to educate children could be compromised.[16]

CRITERIA AND PROCESS FOR REVIEW

The IAC developed 9 criteria to consider when evaluating vaccines for inclusion in mandatory school immunization programs and grouped them into 3 categories: vaccine effectiveness, public health disease burden, and implementation (Table 1). As a first step, the IAC made 3 assumptions that deserve consideration as important components of the criteria. The criteria may be useful, however, regardless of whether these assumptions are met. The IAC assumed that (1) a process existed for parents to opt out of immunization requirements, (2) the vaccine(s) containing the antigen was accessible, and (3) cost was not a barrier.[16] Washington State is a so-called universal purchase state and, as such, allocates state funds to supplement federal funds to make all ACIP-recommended childhood vaccines available to all children and youth through 18 years of age.

The process for reviewing proposed antigens for potential inclusion in the required list of immunizations for school entry is then threefold. First, the above-listed assumptions are reviewed by the Washington State Board of Health to determine if they have been satisfied. In addition, the board determines whether there is sufficient information related to the vaccine of interest for it to be evaluated against the 9 criteria. This helps the board perform a preliminary review to assess the likelihood that the vaccine in question would indeed meet these criteria. Although the board agreed to wait for 2 years after the Department of Health had made the vaccine available to clinicians licensed to administer immunizations in Washington State, it recognized the need to forgo this waiting period in circumstances determined by the board to constitute a "pressing public health need."[16]

Second, a technical advisory group (TAG) is appointed by the board to formally review the vaccine in question against the 9 criteria. The TAG comprises representatives from public health, primary care, epidemiology, and ethics and, when appropriate, can be broadened to include parents, school administrators, and those involved with immunization administration, child advocacy, and child care. The board supplies the TAG with relevant information and current literature about the vaccine in question; in addition, the Department of Health provides the TAG with Washington State–specific information regarding the disease targeted by the vaccine. When the vaccine in question is a combination vaccine, each antigen of the combination vaccine is considered separately against the criteria. These separate considerations are then evaluated by the TAG to make a recommendation about the combination vaccine in total. No well-delineated, formal process exists to assist the TAG in moving from conclusions about separate antigens to a final recommendation about the combination vaccine.

Third, each of the 9 criteria are applied to the vaccine in question by using available data and the professional and scientific judgment of the TAG members. Each criterion need not be weighed equally, but all 9 criteria must be considered. The TAG's deliberations are formulated into a recommendation to the board, including the TAG's opinion about whether the vaccine in question should be added to the Washington Administrative Code. The board then reviews this recommendation and considers possible action.

TABLE 1 The Washington State Board of Health's 9 Criteria to Consider When Evaluating Antigens for Inclusion in Mandatory School Immunization Programs

Vaccine effectiveness

1. A vaccine containing this antigen is recommended by the ACIP and included on its recommended childhood and adolescent immunization schedule.
   The ACIP reviews licensed vaccines. It makes recommendations for newly licensed vaccines and regularly updates its recommendations. Its process includes (1) a review of the FDA labeling/package inserts for each vaccine, (2) a thorough review of the scientific literature (both published and unpublished, when available) on the safety, efficacy, acceptability, and effectiveness of the immunizing agent, with consideration of the relevance, quality, and quantity of published and unpublished data, (3) an assessment of cost-effectiveness, (4) a review of the morbidity and mortality associated with the disease in the population in general and in specific risk groups, (5) a review of the recommendations of other groups, and (6) a consideration of the feasibility of vaccine use in existing child and adult immunization programs. Feasibility issues include, but are not limited to, acceptability to the community, parents, and patients; vaccine distribution and storage; access to vaccine and vaccine administration; impact on the various health care delivery systems; population distribution effects; and social, legal, and ethical concerns.
2. The antigen is effective as measured by immunogenicity and population-based prevention.
   In the clinical development of a vaccine, the efficacy of the vaccine is studied by using FDA-approved research protocols that evaluate whether a vaccine protects individuals from contracting the disease in population-based studies or generates an immunologic response (immunogenicity) comparable to vaccines that have been shown to be effective in preventing disease. More information about its population-based effectiveness is gained from large trials and community-based analyses after FDA approval.
3. The vaccine containing this antigen is as cost-effective from a societal perspective as other vaccines used to prevent the diseases included in Washington Administrative Code 246–100-166 (immunization of children in child care and schoolchildren against certain vaccine-preventable diseases).
   Immunizations are the most cost-effective preventive service for children, saving both lives and money. Vaccines may be cost-effective without being cost saving. In other words, the direct costs of some vaccines (eg, antigen, storage, administration) balanced against direct savings (eg, medical care, disability, death) may not result in net savings. In some cases, societal or indirect costs (eg, lost productivity of caretakers of ill children) will also need to be taken into consideration. These costs are much harder to quantify. Not all vaccines recommended by the ACIP are cost saving or equally effective, so some determination of the vaccine's relative cost-effectiveness may need to be made for comparison purposes when applying the criteria.
4. Experience to date with the vaccine containing this antigen indicates that it is safe and has an acceptable level of adverse effects.
   Vaccinations are not without adverse effects. The known risks associated with each vaccine (or antigen) must be balanced against the risks of the disease. Vaccine safety will be evaluated by using research and reports from prelicensure, the Vaccine Adverse Event Reporting System, and the Vaccine Safety Datalink project.

Disease burden

5. The vaccine containing this antigen prevents disease(s) with significant morbidity and/or mortality in at least some subset of the population.
   Vaccines have the potential to reduce, or in some cases even eliminate, diseases that can result in serious illness, long-term disability, or death. For example, before the measles immunization was available, nearly everyone in the United States contracted measles, and an average of 450 measles-associated deaths were reported each year between 1953 and 1963. The morbidity/mortality burden of measles was not equal for all members of the population. Examples of significant morbidity measures include rates of hospitalizations, long-term disability, disease incidence, and disproportionate impact.
6. Vaccinating the infant, child, or adolescent against this disease reduces the risk of person-to-person transmission.
   Having some proportion of the population vaccinated with the antigen helps to stem person-to-person transmission of the disease (ie, herd immunity). Even community members who are not vaccinated (such as newborns and those with chronic illnesses) are offered some protection, because the disease has less opportunity to spread within the community. Vaccinating children in school and/or child care centers can increase the percentage of children in these groups who are immune and, thus, reduce the risk of outbreaks of the disease in these groups and in the community at large.

Implementation

7. The vaccine is acceptable to the medical community and the public.
   It is possible to gauge the level of provider acceptance of a vaccine by querying state professional societies such as the Washington Academy of Family Physicians and the Washington State Chapter of the American Academy of Pediatrics. Although there is generally a good correlation between the levels of physicians' and the general public's acceptance of particular vaccines, a growing minority of the public has not accepted some recommended vaccines. Therefore, public acceptance of specific vaccines needs to be considered. Most parents today have never seen a case of diphtheria, measles, or other once-common diseases now preventable by vaccines. As a result, some parents wonder why their children must receive shots for diseases that seemingly no longer exist in Washington communities. Myths and misinformation about vaccine safety abound and can make it difficult for parents who are trying to make sound decisions about their children's health care. Adding an antigen/disease to Washington Administrative Code related to a vaccine with poor provider or public acceptance would likely be resisted. Postponing the regulation until there is greater approval of the vaccine would ensure a more effective policy.
8. The administrative burdens of delivery and tracking of vaccine containing this antigen(s) is reasonable.
   Many players are involved in implementation when the board adds a new vaccine to Washington Administrative Code 246-100-166, including the Department of Health, the Department of Social and Health Services, the OPSI, local health jurisdictions, schools, health plans, and health care providers. For each of these key players, there are issues that affect the feasibility of implementing an immunization recommendation. For example, introduction of a new vaccine can result in schools conducting more parent follow-up and making changes to record and information systems, which in turn can impact school staff workload. Ensuring a reasonable burden of work will enhance the effectiveness of the policy. The TAG will consult with affected parties such as the OPSI, schools, and child care centers when assessing an antigen against this criterion.
9. The burden of compliance for the vaccine containing this antigen is reasonable for the parent/caregiver.
   Parents and caregivers are often involved in obtaining vaccines for children. This can include transporting children to medical appointments, taking time off of work for medical appointments, and maintaining the child's immunization records. When a vaccine is required for child care and/or school entry, it affects the health decisions that parents make on their child's behalf because parents must, at the very least, take the required vaccine into account.

Suggested 10th criterion

10. The vaccine containing this antigen should bear some relationship to increasing safety in the school environment.
    Although there are many benefits to school-entry immunization requirements, such as increased vaccination coverage, requiring a vaccine for school entry has origins in protecting others from contracting highly infectious agents through casual contact. Whether the school environment poses a safety risk to its students by virtue of the presence of a disease should remain a factor when considering a school mandate for that antigen. The school environment should be considered to include the principal activities of the school and should reflect the kind of contact inherent in participating in sanctioned educational events.

FDA indicates US Food and Drug Administration; OPSI, Office of Superintendent of Public Instruction.
Source (except for the suggested 10th criterion): Washington State Board of Health.[16]

The Washington State Board of Health's review process raises several issues. First, the process for review begins with the assumption that opt-out opportunities exist. Although essential to acceptance of compulsory vaccination, the Washington State Board of Health's process does not address the level of ease at which these exemptions can be claimed, and it does not assess when the prevalence of exemptions might affect the risk of disease (eg, threaten public health). Second, appointments to the TAG are made by a public health agency and largely reflect the need for a diversity of opinion. The TAG appointment process requires only representation of certain disciplines, and there is no mention of how to assess a member's qualifications. We maintain that there is potential for bias in the criteria's application, and without additional criteria for selecting TAG members, the findings of a given TAG could be unduly influenced by conflicts of interest or other commitments. A third issue is that scientific evidence may not be as persuasive to some members as it is to others. Although this reflects today's challenges in public policy making, it is unclear how disagreements between TAG members are to be handled and a consensus achieved.

THE CRITERIA AND THE HPV VACCINE

The new HPV vaccine provides an opportunity to also critique the IAC's criteria. Although the board's process for review allows for each of the 9 criteria to be weighed differently by those applying them, they are nevertheless meant to be both comprehensive and detailed to address the several layers involved in public policy decisions. We will consider these criteria developed by the IAC to not only determine whether their application would result in support for mandating the new HPV vaccine but also to evaluate their content. The application of the criteria to the HPV vaccine that follows, therefore, is solely ours and does not represent the Washington State Board of Health or its committees.

The 4 vaccine-effectiveness criteria are the first that we will apply to the HPV vaccine. The first criterion (ACIP-recommendation requirement) has clearly been met; however, it is important to clarify that although an ACIP recommendation may establish a standard of practice, it does not establish a mandate. The ACIP recommendation must be viewed as 1 of several qualifications needed to justify mandatory status, as these criteria are meant to illustrate.

Whether criterion 2 (effectiveness established by immunogenicity), 3 (cost-effective from a society perspective), and 4 (safe with an acceptable level of adverse effects) have each been met is arguable, because the vaccine's use in the United States is just beginning. Criterion 2 has been partially met by the immunogenicity and efficacy data from prelicensing vaccine trials. Four clinical trials have shown that the quadrivalent HPV vaccine is 95.2% to 100% effective at preventing HPV infection and disease associated with the 4 HPV types included in the vaccine (6, 11, 16, and 18) in 16- to 26-year-olds.[21] However, community-based evaluations to determine the HPV vaccine's effectiveness in larger populations and its long-term safety have not been completed yet.[10,12] Criterion 3 is difficult to satisfy at this early stage, because cost-effectiveness studies have shown varying results depending on which model, each considering different levels of vaccine efficacy and coverage, is used.[22] Without firm cost-effectiveness data, it is not yet possible to determine how the HPV vaccine measures against other required immunizations. Although it is possible that certain societal values could surface at the time of a discussion involving a vaccine's mandatory status (and that these values could overcome incomplete cost evaluations or a poor cost-effectiveness analysis), there is no evidence as of yet of a predominant, overriding societal position.[14] Finally, criterion 4 is difficult to apply because it largely depends on the weight given to data on postlicensure adverse effects in large populations. These data could take years to accumulate. As of May 8, 2007 (11 months after licensure), 5% of Vaccine Adverse Event Reporting System reports related to HPV have been defined as serious.[23] Four deaths have occurred among female recipients of the HPV vaccine but were determined to not have been caused by vaccination. We consider this postlicensure data to be reassuring and, when combined with prelicensure reports, sufficient to meet criterion 4.

Criterion 5 (vaccine prevents disease that is a public health burden) is seemingly well met by the HPV vaccine, which can prevent much cervical cancer, cervical dysplasia, and related conditions. Also, criterion 6 (reduced transmission risk) is likely met, because a large proportion of the population (adolescent girls) will be vaccinated and contribute to decreased prevalence of HPV disease. It is important to note, however, that because males are not included in current vaccine coverage plans, person-to-person transmission is only reduced and not eliminated.

The implementation criteria represent other areas of concern for mandating the HPV vaccine for school entry. Although there is evidence that the vaccine is garnering public acceptance (criterion 7),[24–26] low awareness and knowledge of HPV, stigma, and parental attitudes and beliefs remain barriers to acceptance.[27,28] Burden of compliance on the part of the caregiver (criterion 9) has not yet been studied. Provider acceptance seems to be tied partly to the relatively high cost of the 3-dose vaccine series ($360) compared with other routine childhood immunizations.[10,14] Many physicians cannot afford to maintain a supply of the vaccine unless its cost will be fully reimbursed[29] (although this is likely to be more relevant for nonuniversal purchase states). Likewise, other administrative burdens in addition to cost (criterion 8), such as legal liability and fair compensation in the event of a serious adverse effect, have not been clearly delineated.[10]

HPV VACCINE, THE HARM PRINCIPLE, AND SCHOOL MANDATES

Although our application of the IAC criteria to HPV found that it only partially meets many of the 9 criteria at this time and, thus, would likely not be recommended for inclusion in mandatory school immunization programs at this time, we would challenge the IAC's appli-

cation of the harm principle that served as a foundation for its criteria and argue that the IAC's application of the harm principle perhaps does not justify making the HPV vaccine a requirement for school entry at any time. Because HPV is primarily transmitted by sexual contact, school children are not placed at significant risk for contracting HPV simply by virtue of being around unvaccinated individuals at school.[10,13] In this way, HPV strays from the *raison d'être* originally used for school mandates, which relied on transmission of highly infectious agents, such as measles, that were capable of infecting others through ordinary close contact (ie, the kind of contact that occurs regularly in the school setting). Orenstein and Hinman noted that "[i]t was control of real disease rather than reaching an immunization target which spurred school laws efforts. During the 1970s the predominant age group affected by measles was school age children and schools were major sites of transmission. . . . Recently school laws have been used to implement new recommendations."[2]

This prompts us to make 2 observations about the IAC's justification for a vaccine mandate attached to school entry. First, "mandates" take different forms in different states. In many states, the vaccine requirement for school entry is not truly a requirement in the sense that parents can opt out of the requirement for virtually any reason. In other states, the opt-out provisions are quite restrictive and onerous, more closely resembling a true mandate. We would argue that in states with easily met "opt-out" provisions, the school entry "requirement" is not truly a state mandate and, thus, does not represent a state action that needs to be justified under the harm principle.

Second, we argue that the IAC's interpretation of the harm principle fails to distinguish between justification for a vaccine mandate and justification for a vaccine mandate attached to school entry. The IAC interprets the harm principle broadly, such that if any of the previously mentioned situations arises (an individual's decision to not vaccinate his or her own child could place another's health in jeopardy, the state's economic interests could be threatened, or the state's duty to educate children could be compromised), there is justification for mandating a vaccine for school entry. This broad interpretation, however, is flawed. For instance, in states with school-entry requirements that more closely resemble a true mandate, vaccine mandates need not, and perhaps should not, be synonymous with school mandates. More so, a state's decision to mandate a vaccine does not necessarily justify a requirement of vaccination before school entry. We feel that the IAC's broad interpretation of the harm principle should be intended to provide justification solely for vaccine mandates. Only for those situations in which an unvaccinated child's presence in the school setting could place another's health in jeopardy or the state's duty to educate children could be compromised should a vaccine mandate be attached to school entry.

HPV provides a good example as to why a distinction between vaccine mandates and vaccine mandates for school entry is important when interpreting the harm principle. If, for example, states using the IAC's interpretation of the harm principle decide that HPV carries such significant public health value that it satisfies justification for a vaccine mandate solely on the basis of the fact that the state's economic interests could be threatened, it does not necessarily follow that this alone would be sufficient to justify restricting school attendance until the vaccine requirement has been met. That is, this interpretation of the harm principle might justify mandating the HPV vaccine, but it does not justify attaching the mandated HPV vaccine to school entry. Therefore, we argue that any vaccine mandate attached to school entry should only be justifiable when failing to vaccinate would place others at significant risk of contracting serious disease (in this case, HPV) in the school setting or the state's duty to educate children could be compromised. School education is a fundamental right, and it is a function of the state to protect that right. If the state's ability to educate children is affected by a disease outbreak that prevents children from attending school because of either illness or fear of contracting the disease from other schoolchildren, mandating the administration of a vaccine against that disease would be justified.

The HPV vaccine, therefore, exposes the problem that requiring vaccination for entry into school potentially denies children a public good (public education) because of a decision made by their parents. The primary "harm" of school denial is borne by someone other than the decision-maker. Although this harm of school denial can be justified for some vaccines, it is not easily justified for HPV. For instance, for diseases that are easily spread through casual contact, such as measles or diphtheria, an argument for excluding students who lack vaccination from school can be justified by the 2 interpretations of the harm principle stated above (ie, that the state has an obligation to ensure that all children are safe at school, and restricting entry to those who are vaccinated against highly communicable diseases helps to ensure a safe environment for children attending public school). The same argument, however, cannot be made for HPV vaccination, for which the mode of spread (sexual activity) is not an inherent risk of the school environment. Thus, HPV illustrates the circumstance under which failure to vaccinate does not clearly justify using denial of school entry as the consequence.

Therefore, we argue that although the beginning of the school year certainly provides a convenient method for verifying immunization status, HPV renders difficulties in justifying a vaccine mandate attached to school entry. Eliminating a school-entry requirement for vaccines such as HPV, however, will almost certainly reduce the rates of immunization for those vaccines (as well as decrease other benefits created by school laws, such as overcoming uneven vaccination patterns), and alternative enforcement measures would need to be explored. Some have suggested that alternative strategies to increase vaccination coverage include vaccination in the medical home, reminder-recall systems, and health plan pay-for-performance schemes.[30] Other strategies might include a vaccine mandate that is not attached to school

entry, requiring those who decide not to comply with the mandate to pay a nominal fee to offset the increased costs to the state or enroll in an educational session at the local public health department. Such mechanisms would need to be studied further but suggest that viable alternatives to school laws do exist.

A SUGGESTED 10TH CRITERION

Our critique of the IAC's interpretation of the harm principle suggests that another criterion is needed. Although school mandates are an effective way of increasing immunization rates, it is not clear that school mandates are an appropriate way to increase immunization rates for vaccines that prevent diseases that bear no relationship to the safety of the school environment. We would argue that connecting such a vaccine to school entry is ethically suspect and suggest that the consideration of mandating a vaccine for school entry should involve a 10th criterion: that the vaccine containing this antigen should bear some relationship to increasing safety in the school environment.

The inclusion of hepatitis B virus and tetanus vaccines in most school mandates might be seen as reason to question this 10th criterion. Indeed, although our suggested 10th criteria might have presented an obstacle for requiring the hepatitis B and tetanus vaccines before school entry, it does not invalidate the criterion but suggests that the criterion might have been helpful as states considered whether to require these vaccines for school attendance. Nevertheless, it could be argued that tetanus and hepatitis B vaccines can more easily satisfy the 10th criterion than HPV. For instance, because the school has a duty to protect children and children are at risk of tetanus exposure while in the school environment because of cuts and scrapes that occur on school grounds during sanctioned school activities such as recess and physical education classes, the tetanus vaccine protects against the risk of exposure to tetanus while children are at school. Likewise, hepatitis B virus may be sufficiently different from HPV such that the two might reasonably be treated differently under our 10th criterion. For instance, there are no risk factors identified in 40% of cases of hepatitis B infection in children and adolescents,[31] which perhaps lends weight to the justification for the hepatitis B vaccine for school entry on the grounds that transmission may be occurring unknowingly at school. Furthermore, the routes for transmitting hepatitis B from person to person that are known are not confined to high-risk activities.[32] Albeit less frequent, there have been cases of preschool-aged children transmitting hepatitis B via casual contact.[33] As such, a child with hepatitis B might place other children at risk by attending preschool, which creates a weightier justification for mandating immunization at that age. This route of casual contact, however, does not exist for HPV. Therefore, because those children who have HPV and attend school are not putting other children at risk simply because its sole transmission is by sexual contact, mandating HPV vaccination for school entry on the grounds of reducing risk of harm in the school environment is problematic.

One could certainly argue that sexual activity, although not sanctioned by the school, sometimes occurs in association with school events such as proms and dances. Although this may be true, sexual contact that leads to disease exposure is not a risk of attending school but, rather, of the social development of persons who attend school above certain ages. Some resistance to a school mandate, in fact, has arisen precisely because some individuals feel these social behaviors are within the realm of personal autonomy and the prevention of certain behaviors is a decision for the parents and not for the state.[30] There seems to be a limit to what can be considered to be school related, and we would maintain that justifications for mandating a vaccine for school entry under the 10th criterion of ensuring school safety ought to reflect the kind of contact that is inherent in participating in sanctioned school events.

CONCLUSIONS

We present and analyze the 9 criteria adopted by the Washington State Board of Health that help establish justification for requiring an immunization for school or child care attendance. These criteria and the process for their review are a potential mechanism to ensure a deliberate and informed approach to such a significant public policy decision. Application of these criteria to the HPV vaccine would likely result in the recommendation that it not be made mandatory for school entry. However, several aspects of the Washington State Board of Health's process need to be developed further. The process of appointing members to the TAG needs to be refined to compensate for bias. How a consensus between TAG members is reached, as well as how combination vaccines are evaluated, needs to be clarified. Finally, our analysis of the HPV vaccine and school mandates in the context of the harm principle have led us to suggest that a more restrictive interpretation of the harm principle is needed to set apart justification for vaccine mandates attached to school entry and justification for vaccine mandates in general. We suggest that a 10th criterion be added for use when states are deciding whether to make school attendance contingent on vaccine receipt. Our critique of the Washington State Board of Health's criteria and review process in the context of HPV offers specific guidance in determining which vaccines are justified for inclusion in school-entry immunization requirements.

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REFERENCES

1. Salmon DA, Teret SP, MacIntyre CR, Salisbury D, Burgess MA, Halsey NA. Compulsory vaccination and conscientious or philosophical exemptions: past, present, and future. *Lancet*. 2006; 367(9508):436–442
2. Orenstein WA, Hinman AR. The immunization system in the United States: the role of school immunization laws. *Vaccine*. 1999;17(suppl 3):S19–S24
3. Centers for Disease Control and Prevention. Impact of vaccines

universally recommended for children: United States, 1900–1998. *JAMA*. 1999;281(16):1482–1483
4. Colgrove J. The ethics and politics of compulsory HPV vaccination. *N Engl J Med*. 2006;355(23):2389–2391
5. Charo RA. Politics, parents, and prophylaxis: mandating HPV vaccination in the United States. *N Engl J Med*. 2007;356(19):1905–1908
6. Feudtner C, Marcuse EK. Ethics and immunization policy: promoting dialogue to sustain consensus. *Pediatrics*. 2001;107(5):1158–1164
7. Centers for Disease Control and Prevention. Vaccination coverage among children entering school: United States, 2005–6 school year. *MMWR Morb Mortal Wkly Rep*. 2006;55(41):1124–1126
8. Dixon B. Doctors, legislators differ on HPV vaccine mandates. *Pediatr News*. 2007;41:1,12
9. Blumenthal R. Texas legislators block shots for girls against cancer virus. *New York Times*. April 26, 2007:16
10. Gostin LO, DeAngelis CD. Mandatory HPV vaccination: public health vs private wealth [published correction appears in *JAMA*. 2007;298(2):178]. *JAMA*. 2007;297(17):1921–1923
11. Zimmerman RK. Ethical analysis of HPV vaccine policy options. *Vaccine*. 2006;24(22):4812–4820
12. De Soto J. Should HPV vaccination be mandatory? *J Fam Pract*. 2007;56(4):267–268
13. Lo B. HPV vaccine and adolescents' sexual activity. *BMJ*. 2006;332(7550):1106–1107
14. Udesky L. Push to mandate HPV vaccine triggers backlash in USA. *Lancet*. 2007;369(9566):979–980
15. Association of Immunization Managers. Position statement: school and child care immunization requirements. Available at: www.immunizationmanagers.org/pdfs/SchoolrequirementsFINAL.pdf. Accessed October 29, 2007
16. Washington State Board of Health, Immunization Advisory Committee. Criteria for reviewing antigens for potential inclusion in WAC 246-100-166. Available at: www.sboh.wa.gov/Meetings/2006/06-14/documents/Tab07b-IAC_criteria.pdf. Accessed September 7, 2007
17. Diekema DS. Parental refusals of medical treatment: the harm principle as threshold for state intervention. *Theor Med Bioeth*. 2004;25(4):243–264
18. Dover TE. An evaluation of immunization regulations in light of religious objections and the developing right of privacy. *Univ Dayton Law Rev*. 1979;4(2):401–424
19. Mill JS. *On Liberty and Utilitarianism*. New York, NY: Bantam Books; 1993
20. Feinberg J. *The Moral Limits of the Criminal Law*. New York, NY: Oxford University Press; 1984
21. US Food and Drug Administration, Office of Oncology Drug Products. FDA licenses quadrivalent human papillomavirus (Types 6, 11, 16, 18) recombinant vaccine (Gardasil) for the prevention of cervical cancer and other diseases in females caused by human papillomavirus. Available at: www.fda.gov/cder/Offices/OODP/whatsnew/gardasil.htm. Accessed May 14, 2007
22. Taira AV, Neukermans CP, Sanders GD. Evaluating human papillomavirus vaccination programs. *Emerg Infect Dis*. 2004;10(11):1915–1923
23. Centers for Disease Control and Prevention. Vaccines and preventable diseases: HPV vaccine—questions & answers for the public. Available at: www.cdc.gov/vaccines/vpd-vac/hpv/hpv-vacsafe-effic.htm. Accessed January 14, 2008
24. Constantine NA, Jerman P. Acceptance of human papillomavirus vaccination among Californian parents of daughters: a representative statewide analysis. *J Adolesc Health*. 2007;40(2):108–115
25. Olshen E, Woods ER, Austin SB, Luskin M, Bauchner H. Parental acceptance of the human papillomavirus vaccine. *J Adolesc Health*. 2005;37(3):248–251
26. Zimet GD, Shew ML, Kahn JA. Appropriate use of cervical cancer vaccine. *Annu Rev Med*. 2008;59:223–236
27. Friedman AL, Shepeard H. Exploring the knowledge, attitudes, beliefs, and communication preferences of the general public regarding HPV: findings from CDC focus group research and implications for practice. *Health Educ Behav*. 2007;34(3):471–485
28. Dempsey AF, Zimet GD, Davis RL, Koutsky L. Factors that are associated with parental acceptance of human papillomavirus vaccines: a randomized intervention study of written information about HPV. *Pediatrics*. 2006;117(5):1486–1493
29. Pollack A. In need of a booster shot: rising costs make doctors balk at giving vaccines. *New York Times*. March 24, 2007:1
30. Horlick G, Shaw FE, Gorji M, Fishbein DB; Working Group on Legislation, Vaccination and Adolescent Health. Delivering new vaccines to adolescents: the role of school-entry laws. *Pediatrics*. 2008;121(suppl 1):S79–S84
31. Behrman RE, Kliegman R, Jenson HB. *Nelson Textbook of Pediatrics*. Philadelphia, PA: Saunders Elsevier; 2007
32. Margolis HS, Alter MJ, Hadler SC. Hepatitis B: evolving epidemiology and implications for control. *Semin Liver Dis*. 1991;11(2):84–92
33. Hayashi J, Kashiwagi S, Nomura H, Kajiyama W, Ikematsu H. The control of hepatitis B virus infection with vaccine in Japanese nursery schools. *Am J Epidemiol*. 1987;126(3):474–479

A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs

Douglas J. Opel, Douglas S. Diekema and Edgar K. Marcuse

Pediatrics 2008;122;e504-e510
DOI: 10.1542/peds.2007-3218

Childhood Vaccine Taskforce
The Augusta Civic Center, **Date:** Thursday 3rd Dec **Time:** 11am - 2pm

Attendees: Patty Hamilton, Geri Greenwell, Naomi Schucker, Jennifer Hayman, Jennifer Jewell, Alexander Dragatsi, Jiancheng Huang, Carolyn Narai, Judy Butler, Kathleen Mahoney, Devon Niedner, Duane Wardell, Peter Hudson, Deb Gonyar, Ann Farner, Susan Barrett, Alison Webb, Stephen Mesiter, Any Pelletier, Lawrence Losey, Norma Dreyfuss, Penny Townsend, Paul Madrazo, Angela Westoff, Nancy Dube.

Peter Smith opened the meeting with introductions and a summary of why Maine CDC has called the meeting. Maine CDC was requested by the Health and Human Services Committee of the Legislature to convene a group of stakeholders around school mandated vaccines with the goal to develop criteria that Maine should use for considering mandating a vaccine for school attendance (and "mandate" in this case refers to a requirement with opt outs based on medical, religious, or philosophical reasons); and what vaccines should therefore be considered by policymakers for mandating. The question regarding exclusions for those children unvaccinated will also be discussed. The assumptions and criteria below were proposed by Washington State and are published in [1]Pediatrics August 1, 2008.

Review criteria for considering school-mandated vaccines

Draft Criteria for Considering School-Mandated Vaccines:

Assumptions:

- A process exists for parents to opt out of immunization requirements;
- The vaccine(s) containing the antigen is accessible,
- Cost is not a barrier;
- The vaccine has been provided to all children for free for at least 2 years, though the waiting period could be waived if there is a "pressing public health need".

~~10.~~5 **Criteria:**

1. The vaccine is ACIP recommended and included in its recommended immunization scheduled for children. Recommendation by the ACIP is made based on the following factors:
    - ~~2.~~a. Effectiveness is established by immunogenicity
    - ~~3.~~b. Vaccine is cost effective ~~from a society perspective and is as cost effective as other vaccines~~
    - ~~4.~~c. Vaccine is safe with an acceptable level of adverse effects
    - ~~5.~~d. Vaccine prevents disease that is currently or historically a public health burden

[1] A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs Pediatrics August 1, 2008 http://www.pediatrics.org/cgi/content/full/122/2/e504 PEDIATRICS Vol. 122 No. 2 August 2008, pp. e504-e510 (doi:10.1542/peds.2007-3218)

6.e. Vaccine reduces transmission risk
7.2. There is ~~public~~ general acceptance of the vaccine among the public and the medical community
8.3. The burden of compliance ~~is low~~ – on schools, providers, and governmental public health is considered
9.4. The burden of compliance ~~is reasonable~~ for the parents/caregivers is considered
10.5. The vaccine has a direct relationship to increasing safety in the school ~~environment~~community

Source:
A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs
Pediatrics August 1, 2008
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Which vaccines from the ACIP recommended list should be considered using these revised proposed citeria?

Hepatitis B (proposed in amendment to LD424 in 2009)
Hepatitis A
PCV (pneumococcal conjugate vaccine)
Hib (Haemophilus influenzae type B vaccine)
Varicella (second dose)
Meningococcal vaccine (for adolescents – proposed in LD 881 in 2009)
Tdap (for adolescents – proposed in LD424 in 2009)
HPV

What strategies should be considered for improving rates of immunization among school children?

- More difficult school exemptions
  - Make it easier to get the shot than the exemption
- Fewer shots (more combination vaccines available)
- Make immunization schedule easier for healthcare providers to track
  - Increase use of state immunization registry for this purpose
- Make philosophical exemptions "all or none"
- Public education
  - Positive media campaign
- Support medical home model
- Immunization by school nurses (may be mutually exclusive with Medical Home suggestion)
- Outreach in school setting
  - "understanding vaccines night" as part of curriculum night
  - Use school nurse and school physician as locally respected credible information sources.
- Provide specific education around vaccine misunderstandings

    - Thimerosal
    - MMR
    - Varicella
    - Live attenuated vaccines
- Distinguish between 'anti-vaccine' people and those who are undervaccinated for other reasons in educational efforts
- Use HMPs for information sharing
- Actively campaign against vaccine myths
- Use existing data to understand undervaccination

Review exemptions to school mandated vaccines and how these are communicated to parents, and make recommendations for any changes needed to Maine law

Currently, exemptions to school mandates are available for medical, religious or philosophical reasons in Maine. The handling of the exemption process varies by school system, but it many cases exemptions require only a signed declination form in lieu of a complete immunization record.

This group expressed that in general, exemptions (particularly philosophical exemptions) are too easy to get. Several suggestions were advanced regarding the availability of philosophical exemptions:

- Eliminate the philosophical exemption (have only medical and religious exemptions)
- Increase the requirements for obtaining a philosophical exemption
- Require a survey at the time of obtaining a philosophical exemption to ascertain the reasons why parents seek these exemptions.
- Follow AAP guidance on exemptions
- Use an 'informed consent' philosophy for exemptions – parents should be informed about the risks of not vaccinating and should be required to state that they understand the risks, which include but are not limited to potential exclusion from school during an outbreak.
- Require philosophical exemptions to be made by the state, rather than by the school district.

Review implementation strategies for controlling disease outbreaks in schools with unvaccinated children and make recommendations for any changes

- assure the process for exemptions is the same in each school district (i.e. some schools "advertise" exemptions by having the form available at parent night, while other wait for a parent to request, etc.); there appears to be a lot of variation - though there is a need to honor and be sensitive to local control
- lots of discussion on finding out why parents choose exemption for their children - one thought was to survey those parents who choose "philosophical" reasons as their exemption

- suggestion to require parents to participate (online, reading, etc) in an informed consent process prior to signing the exemption form
- lots of discussion on the exclusion of unvaccinated children when there is a outbreak (LD 735)

Arguments for Exclusions in the case of an outbreak

1. Improves safety of school
2. Improves compliance with mandate
3. reduces impact on school by reducing duration of outbreaks

Arguments against exclusions in the case of an outbreak

1.Neg ative impact on unvaccinated students and their families
2.L arge impact on school and ME CDC to manage exclusions

Testimony of the
Maine Department of Health and Human Services
Maine Department of Education
Before the Committee on Health and Human Services
Neither For Nor Against LD 424

A Resolve, Directing the Department of Education and the Department of Health and Human Services to Adopt Rules Requiring a Tetanus, Diphtheria, and Pertussis Booster Vaccination in School-Age Children

Sponsored by Representative Gary Connor
March 16, 2009

Senator Brannigan, Representative Perry, and Members of the Joint Standing Committee on Health and Human Services, my name is Dr. Dora Anne Mills and I serve as the Director of the Maine CDC within the Department of Health and Human Services. I am testifying neither for nor against LD 424, A Resolve, Directing the Department of Education and the Department of Health and Human Services to Adopt Rules Requiring a Tetanus, Diphtheria, and Pertussis Booster Vaccination in School-Age Children.

Please be assured that we coordinate closely with the Maine Department of Education and since 1985 have implemented joint rules issued by both departments, specifically Maine DHHS Chapter 261 and Department of Education's Chapter 126 "Immunization Requirements for School Children" rules. We continue to update these requirements as necessary based on standards for school-mandated vaccines.

This testimony represents the positions of both the Maine Departments of Health and Human Services and the Department of Education.

I first want to thank the sponsor for bringing forward this bill that addresses an important public health issue. On one hand we support the intent of this bill to increase the health and safety of Maine's children while attending school, and here are some reasons:

First, we know that the DPT vaccine has been very successful at protecting our young children. For instance, over the past several decades DPT vaccine has resulted in a 99% decline in pertussis and virtual elimination of diphtheria and tetanus in this country. Yet, these were once dreaded diseases that helped lead the causes of serious illness and death among our children in the first half of the last century.

Second, there are benefits to adolescents and especially infants if our adolescents are more highly vaccinated. We know that with some resurgence of pertussis, especially among adolescents who experience waning immunity, the adolescent booster will reduce the incidence of this infection among this population. We have had 100 cases of pertussis each of the last three yeas, with the largest proportion of cases in the adolescent age group. Because infants are the age group who are at highest risk for severe disease, having more adolescents immunized may

help provide more of a buffer of immunity for them. About 10% of children with pertussis in Maine are infants.

On the other hand, there are reasons we are hesitant about fully supporting this bill at this time. **It is important to note that we fully support and highly encourage children starting at age 11 to receive the relatively new tetanus, diphtheria, pertussis vaccine known as Tdap, and we provide this vaccine for free to thousands of children in Maine.** There are many such vaccines we highly recommend and provide, and our health care community does a great job at promoting and administering these vaccines to their patients.

However, this bill covers the much narrower issue of which of these vaccines do we mandate for school attendance. Because there are also proposals coming before you to consider mandating other vaccines for school entry, I think it is important that I share with you the criteria we and others use for determining which vaccines we consider for mandating for school (or daycare) attendance. They can be found just below the end of the testimony.

The criteria come from an article published in the journal of *Pediatrics*, the publication of the American Academy of Pediatrics. These criteria, or ones almost identical to these, are used by some other state health departments. **The overarching purpose of these criteria is to assure that vaccines which are mandated for school attendance are limited to those vaccines that are provided for free, have a history of common use and acceptance, show strong effectiveness with few side effects, and most importantly, protect children while attending school.**

We are not fully supportive of this bill at this time or other proposed mandates for school attendance because we do not believe these mandates meet all of these criteria for two major reasons:

First, Tdap and all other recommended childhood vaccines are not currently provided for free to all children in Maine, and therefore we believe a new mandate does not meet one of the assumptions that cost should not be a barrier as well as the related burden of compliance for parents and caregivers (criteria #9). We normally reserve a mandate for those vaccines which we can cover the costs of so families do not have to pay for something mandated for their child to attend school.

As of January 1st, 2009, we are providing Tdap (for those 11 years old and older) and all other recommended vaccines (but not all combined vaccines) for children who qualify for the Vaccines for Children (VFC) Program. VFC children are those who have Medicaid insurance, those who are uninsured for vaccines and those who are Native American. We have a number of other children with high deductable health insurance whose parents must pay for their children's vaccines. Tdap is about $38 per dose, and this does not cover the price of administering the vaccine, another $14.50, or the office visit that often accompanies the vaccine.

In 1997 Maine was one of the first states to become a universal one, meaning we provided all recommended vaccines for free to all children. Starting in 2007 we had to reduce the number of vaccines we provided universally because of federal budget cutbacks and because of the

increasing numbers and costs of childhood vaccines. This past January, we regrettably had to revert to a VFC-only state.

Parents with high deductable insurance plans or whose children otherwise do not qualify for the VFC Program currently are required to pay for the mandated vaccines. Current compliance with school-mandated vaccines costs about $574 to self-pay parents. This is for the vaccine purchase and the costs to administer the vaccine. The out of pocket daycare-mandated vaccines are an additional $615, for a total of about $1,200.

The Governor's budget, as you know, contains a proposal for $2 million for childhood vaccines. We greatly appreciate your vote of support for that item. We also expect some federal Stimulus funds for childhood vaccines, though it is unclear which types of vaccine those federal funds may cover, though we are told they are most likely to focus on providing influenza vaccine in schools. While we believe the $2 million in the Governor's proposed budget can more than cover the currently mandated school vaccines, it is not sufficient to cover all the vaccines required for day care. We believe it is a better public health investment to use any available new funds to cover as many currently mandated vaccines as possible for school and day care, rather than pass new mandates.

Second, we have seen a large increase in the number of parents who are seeking philosophical exemptions for the school-mandated vaccines, and are worried that piling on more mandates without covering the costs and providing public education about them will make the mandates less meaningful.

A parent survey we did through the Muskie Institute in 2007 indicates a big reason for parents not vaccinating their children is the increasing perceived risks of vaccines. Indeed, with federal funding reductions over the past several years we have had very few resources to educate parents on the benefits of vaccines, and there has been an increase in the amount of misinformation circulating about them.

An indicator of this is that only about eight years ago there were less than 50 philosophical exemptions for entering public school kindergarteners. Since then, the number of philosophical exemptions has steadily climbed to over 500, as of the 2007-2008 school year. However, we believe this 500 may be much larger since that is only from public schools, and there are a number of private schools and home-schoolers with what appear to be relatively large number of vaccine-exempt students.

These challenges of acceptance with Tdap may be accentuated because of a lack of a long history of use of this vaccine and other routine vaccines in the adolescent years. Currently, about 43% of 11 – 14 year olds in our Maine immunization registry are vaccinated with Tdap.

We believe these issues relate broadly to criteria #7, about the acceptance of the vaccine and other vaccines. While we agree with the importance of providing a safe environment for our children at school, if the policy we are promoting is not very widely accepted we may have increasing backlash.

(There are 13 states with Tdap mandates for school attendance in law or regulations, another 3 that have laws which will take effect in one to two years, and another 8 states with Td boosters in law.)

Therefore, we are testifying neither for nor against. There are good reasons to support this bill, and there are good reasons to hold off on considering an additional school mandate until we are in a better position to pay for this vaccine for all children and until we are able to provide adequate education about their benefits.

This is analogous to many other public health policies. For instance, we didn't ban smoking in all indoor public places at once, though the harmful effects of secondhand smoke were well known. Those mandates were done in a step wise fashion with a comprehensive approach that included public education and resources to make it financially easier to quit smoking. I am happy to answer any questions you have, and the Department of Education can also be available.

Criteria for Considering School-Mandated Vaccines:

Assumptions:

- A process exists for parents to opt out of immunization requirements;
- The vaccine(s) containing the antigen is accessible,
- Cost is not a barrier;
- The vaccine has been provided to all children for free for at least 2 years, though the waiting period could be waived if there is a "pressing public health need".

10 Criteria:

1. The vaccine is ACIP recommended and included in its recommended immunization scheduled for children
2. Effectiveness is established by immunogenicity
3. Vaccine is cost effective from a society perspective and is as cost-effective as other vaccines
4. Vaccine is safe with an acceptable level of adverse effects
5. Vaccine prevents disease that is a public health burden
6. Vaccine reduces transmission risk
7. There is public acceptance of the vaccine among the public and the medical community
8. The burden of compliance is low – on schools, providers, and governmental public health
9. The burden of compliance is reasonable for the parents/caregivers
10. The vaccine has a direct relationship to increasing safety in the school environment

Source:
A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs
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PEDIATRICS Vol. 122 No. 2 August 2008, pp. e504-e510 (doi:10.1542/peds.2007-3218)

Frequently Asked Questions and Other Points:

PERTUSSIS

- **What is pertussis?** Pertussis is a vaccine preventable disease that has been greatly reduced in children due to universal childhood vaccination strategy. Also known as whooping cough, this bacterial respiratory infection causes a characteristic cough and can have serious complications including hospitalization and even death, especially in young infants. The childhood vaccine against pertussis has been available since the 1940's, and 4-5 doses of pertussis vaccine are currently required for school entry in Maine. Nationally, use of this vaccine has resulted in a dramatic reduction in the number of cases of pertussis from ~250,000 per year in the 1940's to only 1000 cases per year in the 1970's.

- **How much pertussis do we see in Maine?** In Maine, pertussis is a notifiable condition. Over 100 cases of pertussis were reported to Maine CDC in each of the last three years, with the largest proportion of cases in the adolescent age group. Each year, several outbreaks of pertussis are investigated by the Maine CDC in schools and on sports teams that typically involve exclusion of symptomatic students and antibiotic prophylaxis for family and close contacts.

- **How does a pertussis outbreak affect students and schools?**
  Once a student has been identified to have contracted pertussis, close contacts in both school and home are identified and a course of antibiotics (normally 5 days of Azythromycin or 14 days of Erythromycin) is dispensed by their physician. Symptomatic contacts are asked to be tested by a nasopharyngeal swab and treated with antibiotics, then they are excluded from school for a period of 5 days. Those who would not accept antibiotics are excluded from school activities for a period of 21 days.

TDAP

- **Why do we need another booster shot for pertussis starting at age 11?** While the existing childhood vaccine effectively protects children from pertussis, the protection that it provides is not life-long. Protective immunity wanes in the teenage years, leaving adolescents vulnerable to pertussis infections. As a result of waning immunity, pertussis incidence in the US has been increasing since the 1980's. This is not the case for any other disease for which universal childhood vaccination has been implemented. Epidemiologic evidence indicates that the age groups affected by pertussis infections have changed during the past few decades. Once thought of as a childhood disease, pertussis is now is most common in adolescents and adults.

- **Adolescent booster vaccine doses can reduce the incidence of disease among adolescents and reduce the number of outbreaks in schools.** To prevent pertussis in adolescents, in 2005 the CDC Advisory Committee on Immunization Practices (ACIP) developed recommendations for an adolescent booster dose of a newly available adolescent vaccine called Tdap (tetanus, diphtheria and acellular pertussis). This vaccine replaces the previously recommended booster of tetanus and diphtheria (Td) vaccine. CDC started providing Tdap through the VFC Program in 2006. An additional benefit of

- **Is Tdap safe and effective?**
  Tdap is as effective as other pertussis containing vaccines (DTaP for infants) in eliciting an immune response. Both commercial Tdap vaccines (Boostrix and Adacel) have very similar rates of side effects as their Td counterparts.

- **Is an adolescent Tdap booster cost effective to the healthcare system?**
  Yes. An analysis of the cost of implementation of an adolescent Tdap booster compared to the cost of preventable cases of pertussis, including antibiotics, chest x-rays and physician visits, demonstrates cost effectiveness of the vaccine.

  Hay, J.W. and J.I. Ward. 2005. Economic Considerations for Pertussis Booster Vaccination in Adolescents. *Pediatric Infectious Disease Journal*. 24 (6 Suppl): S127-33.

- **Is Tdap vaccine accepted by most physicians?**
  Yes. Since its introduction to the market, Tdap coverage among adolescence has increased each year. The percentage of adolescents aged 13-15 years with either Td or Tdap is around 70% and approaching the 2010 target of 90%. Younger adolescents are more likely to have Tdap in favor of Td and the percentage of adolescents with Tdap tripled between 2006 and 2007 nationally (2006, 10.8%; 2007 30.4%).

SCHOOL MANDATES AND VACCINE COSTS

- **For what age or grade would Tdap be required?**
  This is not described in the bill. This detail would have to be resolved in the rule-making process.

- **If a family objects to Tdap vaccination or if a child has a health condition that is a contraindication to vaccination, are there exemptions for school attendance?**
  Yes. Maine allows both philosophical and medical exemptions.

- **Do other states require an adolescent Tdap booster for school attendance?**
  http://www.immunize.org/laws/tdap_mandates.pdf
  13 states mandate Tdap vaccine for school attendance and another 3 have such laws that take effect in 1 -2 years (AZ, CO, FL, LA, NV, NH, NJ, NM, NY, NC, ND, OR, PA, VA, WA, WI). Another 8 states mandate Td.
- **Have there been other vaccines recently added to the list of school required vaccines?**
  Yes. A vaccine against Varicella zoster (chicken pox) virus was added to the school requirements in 2003. This requirement was for K-12 and phased in from 2003-2007. This phase in is now complete and a dose of Varicella is required for all grades K-12.

- **What are the currently required vaccines for school and day care and their costs?**
  http://www.maine.gov/sos/cec/rules/10/144/144c261.doc
  DPT - 5 doses - $105 - $115 total
  MMR – 2 doses - $94
  Polio – 4 doses - $96 - $112
  Varicella – 1 dose (or 2 if over 13 years old) - $81 each dose
  Joint rule by Maine CDC/DHHS and DOE

  Required vaccines for day care attendance include the school-required vaccines as well as Hepatitis B ($65 for 3 total doses), HiB ($69 for a 3-4 total doses), and Pneumococcal ($336 for the 4 total doses).

  The cost to purchase school-mandated vaccines is $400 if parents have to pay out of pocket, and an additional $470 for the daycare mandated vaccines. These costs do not include the administration of the vaccines, which by national standards is about $14.50 per vaccine (for a total of $174 for school-mandated vaccine and about $145 for the daycare mandated vaccines). These costs also do not include any charges for the office visit, which can be substantially more.

  By contrast, in 1986 it cost a total of $65 to fully vaccinate a child for the school-mandated vaccines if the parents had to pay out of pocket for them.

  Current Recommended Vaccine Schedule:
  http://www.cdc.gov/vaccines/recs/schedules/child-schedule.htm#printable

  Current Immunization Price List – Private Retail and Public Sector Contracts
  http://www.cdc.gov/vaccines/programs/vfc/cdc-vac-price-list.htm

Pediatric/VFC Vaccine Price List

Vaccine	Brandname/ Tradename	Packaging	CDC Cost/Dose	Private Sector Cost/Dose	Contract End Date	Manufacturer
DTaP [1]	Tripedia® DAPTACEL®	10 pack - 1 dose vials 10 pack - 1 dose vials	$12.65 $13.25	$22.35 $23.03	03/31/2009	Sanofi Pasteur
DTaP [1]	Infanrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes. No Needle	$13.75 $13.75	$20.96 $21.44	03/31/2009	GlaxoSmithKline
DTaP-IPV [2]	Kinrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes	$32.25 $32.25	$48.00 $48.00	03/31/2009	GlaxoSmithKline
DTaP-Hep B-IPV [4]	Pediarix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes. No Needle	$48.75 $48.75	$70.72 $70.72	03/31/2009	GlaxoSmithKline
DTaP-IP-HI [4]	Pentacel®	5 pack - 1 dose vials	$50.10	$72.91	03/31/2009	Sanofi Pasteur
DTaP-Hib [2]	TriHIBit®	5 pack - 1 dose vials	$26.88	$44.88	03/31/2009	Sanofi Pasteur
e-IPV [5]	IPOL®	10 dose vials 10-pack – 1 dose syringes, No Needle	$11.48 $11.48	$23.90 $27.62	03/31/2009	Sanofi Pasteur
Hepatitis B-Hib [3]	COMVAX®	10 pack - 1 dose vials	$28.80	$43.56	03/31/2009	Merck
Hepatitis A Pediatric [5]	VAQTA®	10 pack - 1 dose vials	$12.75	$30.37	03/31/2009	Merck
Hepatitis A Pediatric [5]	Havrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes. No Needle	$12.25 $12.25	$27.41 $27.41	03/31/2009	GlaxoSmithKline
Hepatitis A-Hepatitis B 18 only [3]	Twinrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes, No Needle	$38.64 $38.64	$78.16 $78.42	03/31/2009	GlaxoSmithKline
Hepatitis B [5] Pediatric/Adolescent	ENGERIX B®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes, No Needle	$9.50 $9.50	$21.37 $21.37	03/31/2009	GlaxoSmithKline
Hepatitis B [5] Pediatric/Adolescent	RECOMBIVAX HB®	10 pack - 1 dose vials	$9.75	$23.20	03/31/2009	Merck

Hepatitis B 2 dose [5] Adolescent (11-15)	RECOMBIVAX HB®	10 pack - 1 dose vials	$24.25	$59.09	03/31/2009	Merck
Hib [5]	PedvaxHIB®	10 pack - 1 dose vials	$11.26	$22.77	03/31/2009	Merck
Hib [5]	ActHIB®	5 pack - 1 dose vials	$8.64	$22.83	03/31/2009	Sanofi Pasteur
HPV - Quadrivalent Human Papillomavirus Types 6, 11, 16 and 18 Recombinant [5]	Gardasil®	10 pack – 1 dose vials	$100.59	$130.27	03/31/2009	Merck
Measles, Mumps, Rubella and Varicella (MMR-V) [2]	ProQuad®	10 pack - 1 dose vials	$80.75	$126.65	03/31/2009	Merck
Meningococcal Conjugate (Groups A, C, Y and W-135) [5]	Menactra®	5 pack - 1 dose vials	$76.35	$98.52	03/31/2009	Sanofi Pasteur
Measles, Mumps and Rubella (MMR) [1]	MMRII®	10 pack - 1 dose vials	$18.26	$46.81	03/31/2009	Merck
Pneumococcal 7-valent [5] (Pediatric)	Prevnar®	10 pack – 1 dose syringes, No Needle	$66.44	$83.88	03/31/2009	Wyeth/Lederle
Rotavirus, Live, Oral, Pentavalent [5]	RotaTeq®	10 pack - 1 dose 2mL tubes	$57.20	$69.59	03/31/2009	Merck
Rotavirus, Live, Oral, Oral [5]	Rotarix®	10 pack - 1 dose vials	$82.25	$102.50	03/31/2009	GlaxoSmithKline
Tetanus & Diphtheria Toxoids [3]	DECAVAC®	10 pack - 1 dose syringes No Needle 10 pack – 1 dose vials	$17.38 $17.38	$19.49 $19.49	03/31/2009	Sanofi Pasteur
Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis [1]	BOOSTRIX®	10 pack - 1 dose vials 5 pack - 1 dose TL syringes, No Needle	$30.75 $30.75	$37.55 $37.55	03/31/2009	GlaxoSmithKline
Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis [1]	ADACEL®	10 pack - 1 dose vials 5 pack - 1 dose BD Leur-Lok syringes	$30.75 $30.75	$37.43 $37.43	03/31/2009	Sanofi Pasteur
Varicella [5]	Varivax®	10 pack - 1 dose vials	$61.50	$80.58	03/31/2009	Merck

[1] Vaccine cost includes $2.25 dose Federal Excise Tax
[2] Vaccine cost includes $3.00 per dose Federal Excise Tax
[3] Vaccine cost includes $1.50 per dose Federal Excise Tax
[4] Vaccine cost includes $3.75 per dose Federal Excise Tax
[5] Vaccine cost includes $0.75 per dose Federal Excise Tax
[6] Vaccines which contain Thimerosal as a preservative

Testimony of the
Maine Center for Disease Control and Prevention
Maine Department of Health and Human Services
In conjunction with the
Maine Department of Education

Before the Joint Standing Committee on Health and Human Services
Neither For Nor Against LD 881

A Resolve, To Ensure the Health of Maine Children by Requiring a Certain Vaccination

Sponsored by Senator Bryant of Oxford
March 30, 2009

Senator Brannigan, Representative Perry, and Members of the Joint Standing Committee on Health and Human Services, my name is Dr. Dora Anne Mills and I serve as the Director of the Maine CDC within the Department of Health and Human Services. I am testifying neither for nor against LD 881, A Resolve, to Ensure the Health of Maine Children by Requiring a Certain Vaccination.

Please be assured that we coordinate closely with the Maine Department of Education and since 1985 have implemented joint rules issued by both departments, specifically Maine DHHS Chapter 261 and Department of Education's Chapter 126 "Immunization Requirements for School Children" rules. We continue to update these requirements as necessary based on standards for school-mandated vaccines.

This testimony represents the positions of both the Maine Departments of Health and Human Services and the Department of Education.

I first want to thank the sponsor for bringing forward this bill that addresses an important public health issue. On one hand we support the intent of this bill to increase the health and safety of Maine's children while attending school, and here are some reasons:

First, we know that the meningococcal vaccine can be been successful in protecting against this deadly disease caused by the bacteria *neisseria meningitidis*. About 1,000 – 2,600 people get meningococcal disease each year in the U.S. Even when they are treated with antibiotics, 10-15% of these people die. Of those who survive, another 11-19% lose their arms or legs, become deaf, have problems with their nervous systems, become mentally retarded, or suffer seizures or strokes. Anyone can get meningococcal disease. But it is most common in infants less than one year of age and people with certain medical conditions, such as lack of a spleen. College freshmen who live in dormitories, and teenagers 15-19 have an increased risk of getting meningococcal disease. Meningococcal infections can be treated with drugs such as penicillin. Still, about 1 out of every ten people who get the disease dies from it, and many others are affected for life. This is why *preventing* the disease through use of meningococcal vaccine is important for people at highest risk.

Both types of meningococcal vaccines available in the U.S. are about **90% effective in preventing the disease.** The two vaccines are MCV4=meningococcal conjugate vaccine licensed in 2005 and MPSV4=meningococcal polysaccharide vaccine, licensed since the 1970s.

Maine has an average of about 8 cases per year of meningococcal disease. In recent years there has been an average of one child 11 – 18 years of age per year infected with a vaccine-susceptible strain. This includes two children since the vaccine was distributed in mid-2006. The last death from meningococcal disease in this age group was in 2001, though that strain may have been not one protected by the vaccine.

On the other hand, there are reasons we are hesitant about fully supporting this bill at this time. **It is important to note that we fully support and highly encourage children starting at age 11 to receive the meningococcal vaccine, and we provide this vaccine for free to thousands of children in Maine.** There are many such vaccines we highly recommend and provide, and our health care community does a great job at promoting and administering these vaccines to their patients.

However, this bill covers the much narrower issue of which of these vaccines do we mandate for school attendance. Because there are also proposals coming before you to consider mandating other vaccines for school entry, I think it is important that I share with you the criteria we and others use for determining which vaccines we consider for mandating for school (or daycare) attendance. They can be found just below the end of the testimony.

The criteria come from an article published in the journal of *Pediatrics*, the publication of the American Academy of Pediatrics. These criteria, or ones almost identical to these, are used by some other state health departments. **The overarching purpose of these criteria is to assure that vaccines which are mandated for school attendance are limited to those vaccines that are provided for free, have a history of common use and acceptance, show strong effectiveness with few side effects, and most importantly, protect children while attending school.**

We are not fully supportive of this bill at this time or other proposed mandates for school attendance because we do not believe these mandates meet all of these criteria for two major reasons:

First, meningococcal and all other recommended childhood vaccines are not currently provided for free to all children in Maine, and therefore we believe a new mandate does not meet one of the assumptions that cost should not be a barrier as well as the related burden of compliance for parents and caregivers (criteria #9). We normally reserve a mandate for those vaccines which we can cover the costs of so families do not have to pay for something mandated for their child to attend school.

As of January 1st, 2009, we are providing meningococcal vaccine (for those 11 years old and older) and all other recommended vaccines (but not all combined vaccines) for children who qualify for the Vaccines for Children (VFC) Program. VFC children are those who have Medicaid insurance, those who are uninsured for vaccines and those who are Native American.

We have a number of other children with high deductable health insurance whose parents must pay for their children's vaccines. **The meningococcal vaccine is about $100 per dose, and this does not cover the price of administering the vaccine, another $14.50, or the office visit that often accompanies the vaccine.**

In 1997 Maine was one of the first states to become a universal one, meaning we provided all recommended vaccines for free to all children. Starting in 2007 we had to reduce the number of vaccines we provided universally because of federal budget cutbacks and because of the increasing numbers and costs of childhood vaccines. This past January, we regrettably had to revert to a VFC-only state.

Parents with high deductable insurance plans or whose children otherwise do not qualify for the VFC Program currently are required to pay for the mandated vaccines. Current compliance with school-mandated vaccines costs about $574 to self-pay parents. This is for the vaccine purchase and the costs to administer the vaccine. The out of pocket daycare-mandated vaccines are an additional $615, for a total of about $1,200.

The Governor's budget, as you know, contains a proposal for $2 million for childhood vaccines. We greatly appreciate your vote of support for that item. We also expect some federal Stimulus funds for childhood vaccines, though it is unclear which types of vaccine those federal funds may cover, though we are told they are most likely to focus on providing influenza vaccine in schools. While we believe the $2 million in the Governor's proposed budget can more than cover the currently mandated school vaccines, it is not sufficient to cover all the vaccines required for day care. We believe it is a better public health investment to use any available new funds to cover as many currently mandated vaccines as possible for school and day care, rather than pass new mandates.

Second, we have seen a large increase in the number of parents who are seeking philosophical exemptions for the school-mandated vaccines, and are worried that piling on more mandates without covering the costs and providing public education about them will make the mandates less meaningful.

A parent survey we did through the Muskie Institute in 2007 indicates a big reason for parents not vaccinating their children is the increasing perceived risks of vaccines. Indeed, with federal funding reductions over the past several years we have had very few resources to educate parents on the benefits of vaccines, and there has been an increase in the amount of misinformation circulating about them.

An indicator of this is that only about eight years ago there were less than 50 philosophical exemptions for entering public school kindergarteners. Since then, the number of philosophical exemptions has steadily climbed to over 500, as of the 2007-2008 school year. However, we believe this 500 may be much larger since that is only from public schools, and there are a number of private schools and home-schoolers with what appear to be relatively large number of vaccine-exempt students.

These challenges of acceptance with meningococcal may be accentuated because of a lack of a long history of use of this vaccine and other routine vaccines in the adolescent years. This vaccine became widely available in mid-2006. Since then, Maine CDC has distributed about 36,000 doses. **The meningococcal vaccine rate among those children in our immunization registry are 13% for 11 – 12 year olds and 31% for 13 – 14 year olds.**

We believe these issues relate broadly to criteria #7, about the acceptance of the vaccine and other vaccines. While we agree with the importance of providing a safe environment for our children at school, if the policy we are promoting is not very widely accepted we may have increasing backlash.

(12 states as of 12/1008 mandate meningococcal vaccine for public school attendance (AZ, IN, LO, MA, MI, NJ, NC, ND, PA, TN, TX, WA). VT and NY also require for residential schools. Maine, like a number of states, has a mandate that all incoming freshmen into post secondary school dormitories receive information about the vaccine.)

Therefore, we are testifying neither for nor against. There are good reasons to support this bill, and there are good reasons to hold off on considering an additional school mandate until we are in a better position to pay for this vaccine for all children and until we are able to provide adequate education about their benefits.

A similar bill, LD 424, proposing to mandate Tdap vaccine, had a hearing recently. One tentative agreement among some of the stakeholders is for Maine CDC to convene stakeholders to study the issues of school mandated vaccines and report back to you with recommendations next winter. We suggest LD 881 be folded into that discussion and report.

This situation we face with school mandated vaccines is analogous to many other public health policies. For instance, we didn't ban smoking in all indoor public places at once, though the harmful effects of secondhand smoke were well known. Those mandates were done in a step wise fashion with a comprehensive approach that included public education and resources to make it financially easier to quit smoking. I am happy to answer any questions you have, and the Department of Education can also be available.

Criteria for Considering School-Mandated Vaccines:

Assumptions:

- A process exists for parents to opt out of immunization requirements;
- The vaccine(s) containing the antigen is accessible,
- Cost is not a barrier;
- The vaccine has been provided to all children for free for at least 2 years, though the waiting period could be waived if there is a "pressing public health need".

10 Criteria:

1. The vaccine is ACIP recommended and included in its recommended immunization scheduled for children
2. Effectiveness is established by immunogenicity
3. Vaccine is cost effective from a society perspective and is as cost-effective as other vaccines
4. Vaccine is safe with an acceptable level of adverse effects
5. Vaccine prevents disease that is a public health burden
6. Vaccine reduces transmission risk
7. There is public acceptance of the vaccine among the public and the medical community
8. The burden of compliance is low – on schools, providers, and governmental public health
9. The burden of compliance is reasonable for the parents/caregivers
10. The vaccine has a direct relationship to increasing safety in the school environment

Source:
A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs
Pediatrics August 1, 2008
http://www.pediatrics.org/cgi/content/full/122/2/e504
PEDIATRICS Vol. 122 No. 2 August 2008, pp. e504-e510 (doi:10.1542/peds.2007-3218)

Frequently Asked Questions and Other Points:

MENINGOCOCCAL DISEASE AND VACCINE

- **What is meningococcal infection?**

It is a severe bacterial infection that can cause meningitis, bloodstream infection, and other localized infections. Although the disease is not common in the United States, in those who get it, symptoms develop and progress rapidly even leading to death in 24-48 hours.

- **How is it transmitted?**

Meningococcal infection is spread by direct contact with large droplet respiratory secretions (coughing, sneezing, kissing, mouth-to-mouth resuscitation). Close household contacts of persons with meningococcal disease are at greatly increased risk of infection. This disease develops and progresses rapidly.

- **How common is meningococcal disease in Maine?**

Maine has an average of about 8 cases per year of meningococcal disease. In recent years there has been an average of one child 11 – 18 years of age per year infected with a vaccine-susceptible strain (A, C, Y, W135). This includes two children in this age group since the vaccine was distributed in mid-2006. The last death from meningococcal disease in this age group was in 2001, though that strain may have been not one protected by the vaccine.

For More Information see handout in appendix or visit:
FAQ on Meningococcal Disease and Vaccine
http://www.cdc.gov/vaccines/pubs/vis/downloads/vis-mening.pdf

Maine CDC 2007 Report on Infectious Diseases pages 42 and 43
http://www.maine.gov/dhhs/boh/documents/Final_AnnualReport_2007.pdf

SCHOOL MANDATES AND VACCINE COSTS

- **For what age or grade would meningococcal vaccine be required?**
  This is not described in the bill. This detail would have to be resolved in the rule-making process.

- **If a family objects to the vaccination or if a child has a health condition that is a contraindication to vaccination, are there exemptions for school attendance?**
  Yes. Maine allows both philosophical and medical exemptions.

- **Do other states require an adolescent meningococcal vaccine for school attendance?**
  Yes, 12 states as of 12/1008 mandate meningococcal vaccine for public school attendance (AZ, IN, LO, MA, MI, NJ, NC, ND, PA, TN, TX, WA). VT and NY also require for residential schools. Maine, like a number of states, has a mandate that all incoming freshmen into post secondary school dormitories receive information about the vaccine.
  http://www.immunize.org/laws/menin_sec.asp

- **Have there been other vaccines recently added to the list of school required vaccines?**
  Yes. A vaccine against Varicella zoster (chicken pox) virus was added to the school requirements in 2003. This requirement was for K-12 and phased in from 2003-2007. This phase in is now complete and a dose of Varicella is required for all grades K-12.

- **What are the currently required vaccines for school and day care and their costs?**
  http://www.maine.gov/sos/cec/rules/10/144/144c261.doc
  DPT - 5 doses - $105 - $115 total
  MMR – 2 doses - $94
  Polio – 4 doses - $96 - $112
  Varicella – 1 dose (or 2 if over 13 years old) - $81 each dose
  Joint rule by Maine CDC/DHHS and DOE

  Required vaccines for day care attendance include the school-required vaccines as well as Hepatitis B ($65 for 3 total doses), HiB ($69 for a 3-4 total doses), and Pneumococcal ($336 for the 4 total doses).

  The cost to purchase school-mandated vaccines is $400 if parents have to pay out of pocket, and an additional $470 for the daycare mandated vaccines. These costs do not include the administration of the vaccines, which by national standards is about $14.50 per vaccine (for a total of $174 for school-mandated vaccine and about $145 for the

daycare mandated vaccines). These costs also do not include any charges for the office visit, which can be substantially more.

By contrast, in 1986 it cost a total of $65 to fully vaccinate a child for the school-mandated vaccines if the parents had to pay out of pocket for them.

Current Recommended Vaccine Schedule:
Children 0 – 6 years old
http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2009/09_0-6yrs_schedule_pr.pdf
Children 7 – 18 years old
http://www.cdc.gov/vaccines/recs/schedules/downloads/child/2009/09_7-18yrs_schedule_pr.pdf

Current Immunization Price List – Private Retail and Public Sector Contracts
http://www.cdc.gov/vaccines/programs/vfc/cdc-vac-price-list.htm

Pediatric/VFC Vaccine Price List

Vaccine	Brandname/ Tradename	Packaging	CDC Cost/Dose	Private Sector Cost/Dose	Contract End Date	Manufacturer
DTaP [1]	Tripedia® DAPTACEL®	10 pack - 1 dose vials 10 pack - 1 dose vials	$12.65 $13.25	$22.35 $23.03	03/31/2009	Sanofi Pasteur
DTaP [1]	Infanrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes. No Needle	$13.75 $13.75	$20.96 $21.44	03/31/2009	GlaxoSmithKline
DTaP-IPV [2]	Kinrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes	$32.25 $32.25	$48.00 $48.00	03/31/2009	GlaxoSmithKline
DTaP-Hep B-IPV [4]	Pediarix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes. No Needle	$48.75 $48.75	$70.72 $70.72	03/31/2009	GlaxoSmithKline
DTaP-IP-Hl [4]	Pentacel®	5 pack - 1 dose vials	$50.10	$72.91	03/31/2009	Sanofi Pasteur
DTaP-Hib [2]	TriHIBit®	5 pack - 1 dose vials	$26.88	$44.88	03/31/2009	Sanofi Pasteur
e-IPV [5]	IPOL®	10 dose vials 10-pack – 1 dose syringes, No Needle	$11.48 $11.48	$23.90 $27.62	03/31/2009	Sanofi Pasteur
Hepatitis B-Hib [3]	COMVAX®	10 pack - 1 dose vials	$28.80	$43.56	03/31/2009	Merck

Hepatitis A Pediatric [5]	VAQTA®	10 pack - 1 dose vials	$12.75	$30.37	03/31/2009	Merck
Hepatitis A Pediatric [5]	Havrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes. No Needle	$12.25 $12.25	$27.41 $27.41	03/31/2009	GlaxoSmithKline
Hepatitis A-Hepatitis B 18 only [3]	Twinrix®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes, No Needle	$38.64 $38.64	$78.16 $78.42	03/31/2009	GlaxoSmithKline
Hepatitis B [5] Pediatric/Adolescent	ENGERIX B®	10 pack - 1 dose vials 5 pack - 1 dose T-L syringes, No Needle	$9.50 $9.50	$21.37 $21.37	03/31/2009	GlaxoSmithKline
Hepatitis B [5] Pediatric/Adolescent	RECOMBIVAX HB®	10 pack - 1 dose vials	$9.75	$23.20	03/31/2009	Merck
Hepatitis B 2 dose [5] Adolescent (11-15)	RECOMBIVAX HB®	10 pack - 1 dose vials	$24.25	$59.09	03/31/2009	Merck
Hib [5]	PedvaxHIB®	10 pack - 1 dose vials	$11.26	$22.77	03/31/2009	Merck
Hib [5]	ActHIB®	5 pack - 1 dose vials	$8.64	$22.83	03/31/2009	Sanofi Pasteur
HPV - Quadrivalent Human Papillomavirus Types 6, 11, 16 and 18 Recombinant [5]	Gardasil®	10 pack – 1 dose vials	$100.59	$130.27	03/31/2009	Merck
Measles, Mumps, Rubella and Varicella (MMR-V) [2]	ProQuad®	10 pack - 1 dose vials	$80.75	$126.65	03/31/2009	Merck
Meningococcal Conjugate (Groups A, C, Y and W-135) [5]	Menactra®	5 pack - 1 dose vials	$76.35	$98.52	03/31/2009	Sanofi Pasteur
Measles, Mumps and Rubella (MMR) [1]	MMRII®	10 pack - 1 dose vials	$18.26	$46.81	03/31/2009	Merck
Pneumococcal 7-valent [5] (Pediatric)	Prevnar®	10 pack – 1 dose syringes, No Needle	$66.44	$83.88	03/31/2009	Wyeth/Lederle
Rotavirus, Live, Oral, Pentavalent [5]	RotaTeq®	10 pack - 1 dose 2mL tubes	$57.20	$69.59	03/31/2009	Merck
Rotavirus, Live, Oral, Oral [5]	Rotarix®	10 pack - 1 dose vials	$82.25	$102.50	03/31/2009	GlaxoSmithKline
Tetanus & Diphtheria Toxoids [3]	DECAVAC®	10 pack - 1 dose syringes No Needle 10 pack – 1 dose vials	$17.38 $17.38	$19.49 $19.49	03/31/2009	Sanofi Pasteur
Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis [1]	BOOSTRIX®	10 pack - 1 dose vials 5 pack - 1 dose TL syringes, No Needle	$30.75 $30.75	$37.55 $37.55	03/31/2009	GlaxoSmithKline

Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis [1]	ADACEL®	10 pack - 1 dose vials 5 pack - 1 dose BD Leur-Lok syringes	$30.75 $30.75	$37.43 $37.43	03/31/2009	Sanofi Pasteur
Varicella [5]	Varivax®	10 pack - 1 dose vials	$61.50	$80.58	03/31/2009	Merck

[1] Vaccine cost includes $2.25 dose Federal Excise Tax
[2] Vaccine cost includes $3.00 per dose Federal Excise Tax
[3] Vaccine cost includes $1.50 per dose Federal Excise Tax
[4] Vaccine cost includes $3.75 per dose Federal Excise Tax
[5] Vaccine cost includes $0.75 per dose Federal Excise Tax
[6] Vaccines which contain Thimerosal as a preservative

Testimony of the
Maine Center for Disease Control and Prevention
Department of Health and Human Services
In conjunction with the Department of Education

Before the Committee on Education and Cultural Affairs
In Opposition to LD 735

An Act To Allow Unimmunized Children to Attend School Upon Parental Waiver
Sponsored by Senator Marrache
March 23, 2009

Senator Alfond, Representative Sutherland, and Members of the Joint Standing Committee on Education and Cultural Affairs, my name is Dr. Dora Anne Mills and I serve as the Director of the Maine CDC within the Department of Health and Human Services. I am also testifying on behalf of the Department of Education in opposition to LD 735, An Act To Allow Unimmunized Children to Attend School Upon Parental Waiver.

Vaccines are among the top 10 most successful public health strategies of the 20th Century. Diphtheria, tetanus, meningitis, measles, smallpox, rubella, pneumonia, and influenza are listed among the top killers on the death certificates of one in five Maine children born 100 years ago who did not live to see their 5th birthdays. Yet today, thanks to vaccines, these causes of death in this age group are nearly eliminated. Because of this success, the death rate of those born in Maine is one in 800 before the age of 5.

The overall purpose of school mandates is to provide a safe environment for all children while at school. Not all recommended childhood vaccines are mandated for school attendance, but we use certain criteria, found at the end of this testimony, to determine if a vaccine should be considered for a mandate. The overarching purpose of these criteria is to assure that vaccines which are mandated for school attendance are limited to those that are provided for free, have a history of common use and acceptance, show strong effectiveness with few side effects, and most importantly, protect children while attending school.

Currently, four vaccines are required for school attendance in Maine: DPT (diphtheria, pertussis, tetanus), MMR (measles, mumps, rubella), Polio, and Varicella (chickenpox). (Daycare attendance requires these vaccines plus those against Hepatitis B, Hib, and Pneumococcal.)

We feel the current exemptions in Maine statute for school-mandated vaccines are adequate, though if anything should be strengthened. They include exemptions for the following reasons:

- There is evidence that the child is already immune (from contracting the disease or from undocumented vaccine but proof of immunity such as from a blood test);

- A physician provides a written statement that immunization is medically inadvisable;
- The parent states in writing that they have a sincere religious believe which is contrary to the immunization requirement;
- The parent states in writing that they are opposed to the immunization requirement for philosophical reasons.

How easy is it to file a religious or philosophical exemption?
Filing a philosophical or religious exemption is usually quite easy; it's usually a matter of simply signing and returning a form that is often given out to all parents with the vaccine information. In fact, **it is often much easier to sign and return this exemption form than it is to get one's child vaccinated**. If there is no form available to the parent, the law simply requires a statement filed by the parents.

Increasing numbers of Maine parents are filing philosophical exemptions to these 4 vaccines. About 8 years ago less then 50 parents of children entering public school kindergarten claimed an exemption because of philosophical reasons. In the 2007-2008 school year, this increased to over 500. And, we believe there are many additional children unvaccinated in private schools and among those who are schooled at home.

What happens to a student who is unvaccinated? They attend school normally. However, schools are required to maintain a list of them. The parents must sign a form every year to renew the exemption.

When there is an outbreak of the disease for which they are unvaccinated and for which there is a vaccine mandate for school attendance, that student is "excluded from school and school activities when in the opinion of a public health official (Bureau of Health Director or designee) **the child's continued presence in school poses a clear danger to the health of <u>others</u>.**" The "period of danger" is designated for the diseases in rules, and is usually the incubation period from the onset of symptoms of the last identified case. Although the number of days for the various infections varies from 15 to 23 days, often the exclusion period is for fewer days because by the time a disease is identified, the onset of symptoms of the last child is a few days before the unvaccinated child is excluded. This is a "period of danger" because an exposed child can be highly contagious, in the process of coming down with the infection, but not show any symptoms of it.

Why do unvaccinated children have to be excluded, even if the parents don't mind if the child stays in school and contracts the disease? The overarching reason is to protect other children. There are two main situations that account for why excluding unvaccinated children in an outbreak protects others. **First, not all vaccinated children are 100% protected.** Vaccines, like any other medication, are not 100% effective. For school-mandated vaccines, about 85% - 95% of vaccinated children will be fully immune. For the 5 – 15% of children whose vaccines did not confer full immunity, they are at risk for contracting the infection when there is a disease outbreak, though for some of these diseases, they are more likely than unvaccinated children to contract a mild form

of the infection and to be less contagious. Since there is no practical way to identify these vaccinated but under-immune children, **the best way to stop the outbreak from spreading is to exclude unvaccinated children, whom we know are most likely to contract the infection if exposed and be highly contagious even before symptoms appear.**

Second, there are some populations of students who are very susceptible to these infections and severe complications from them, in some cases even if they were previously vaccinated. For instance, children with the most common type of childhood cancer, leukemia, as well as some other cancers, can lose their immunity to and be very susceptible to severe complications from these infections. Other examples include children who must take high dose steroids for asthma, those who have immune disorders, or children who have other diseases such as cystic fibrosis. For some of these diseases, such as chickenpox and measles, these children are not only susceptible to severe complications, they are also at risk for dying. A non-immune child with leukemia is at high risk from dying from chickenpox.

What further complicates the control of some of these diseases such as chickenpox and measles is that they are highly contagious. For instance, measles and chickenpox can be transmitted to a susceptible person even without close contact. Being in the same room or building within the same ventilation system can be enough to transmit the infection.

Therefore in order to protect all children while they are in school, we must exclude unvaccinated children when there is an outbreak, and the purpose of this exclusion is to protect other children who are either not fully immune from the vaccine or whose immune systems are weakened by an illness or medical treatments.

What are the laws in other states?
All US states have laws that require children to be immunized before attending school. Medical exemptions are allowed in each state. 48 states allow for religious exemptions (except WV and MS). 27 states only allow medical and religious exemptions. 21 states also allow personal belief exemptions (AR, AZ, CA, CO, ID, LA, ME, MI, MN, NH, NM, ND, OH, OK, OR, PA, TX, UT, VT, WA, WI).

45 states have laws mandating varicella vaccine for school attendance, and all 50 states mandate DPT, MMR, and Polio vaccines. All these states with mandates also require unvaccinated children to be excluded from school if there is a public health threat. (http://www.immunize.org/laws/#dtap)

How difficult should it be to obtain an exemption for school-mandated vaccines?
Recent discussions on mandated school vaccine laws agree with the 1896 declaration by the British Royal Commission on Vaccination that a parental exemption "must involve as much trouble on the part of the parent as the attendance at a vaccination station would involve...any such alternative shall be so contrived as to exclude cases in which the objection arises merely from an indisposition to incur the trouble involved..."(British Medical Journal, 1896). **In other words, it should be easier to get your child**

vaccinated than to obtain a personal belief exemption to the vaccine.

A group of public health experts, lawyers, and bioethicists from Johns Hopkins in 2002 stated that "the balance between the clear public benefit of vaccination and the importance of parental autonomy in making vaccination decisions can be optimally achieved by focusing on assuring the sincerity of fully informed parents' beliefs rather than whether those beliefs are grounded in religion or philosophy" and ongoing research and studies indicate that "seeking exemptions is often a missed opportunity for vaccine risk communication and education. Parents seeking exemptions should be informed of the individual and community risks of not having their child vaccinated." (http://www.vaccinesafety.edu/Boozman-letter.pdf)

What direction should our exemption law be taking?
The experts from Johns Hopkins worked with the Arkansas Medical Society and created a model school exemption law, a summary of which is found at the end of this testimony. This law ensures that parents wanting to file a personal belief (philosophical or religious) exemption have been individually counseled by a health care provider about the risks and benefits of the vaccine to the child and to the public's health. The law also requires the parents to file a personal signed statement explaining the reasons for the exemption and that they understand the child may be removed from school in the event of an outbreak. The public health department may also decline to issue a certificate of exemption to protect the child or the public's health after considering vaccination rates and outbreaks in the jurisdiction.

We recognize that at this point in time there are significant barriers to parents obtaining vaccines for their children in Maine, and these barriers may also be contributing to the increasing use of the philosophical exemptions. Some parents must now pay out of pocket for the vaccines. Many parents are not fully informed, in part because we have little or no resources for broad-based public education on the benefits of vaccines and to counter much of the circulating misinformation. We hope with the Governor's budget to lower some of the cost barriers and at least provide all the school-mandated vaccines for free to all children.

Besides lowering the barriers to obtaining vaccines, we believe Maine's exemption law should not be weakened. If anything our law should be strengthened, and the model law from Hopkins provides some guidance. Maine parents currently can easily sign an exemption form or submit a brief personal statement; it is easier to file a vaccine exemption than to have one's child vaccinated; and we do not even have a system to assure that parents signing an exemption form are fully informed.

In summary, we are opposed to weakening the laws and rules surrounding school mandated vaccines.

I am happy to answer any questions you may have now or at the work session. Representatives from the Department of Education are here and can also be available at the work session.

Model School Exemption Law by John Hopkins School of Public Health and Arkansas Medical Society:

http://www.vaccinesafety.edu/DraftExemption.htm

A child may be exempt for school-mandated vaccines in two situations:
A public health department may grant a certificate of exemption:

- after a parent applies for one and there is evidence from a physician that the child is at increased risk from serious complications from the vaccine relative to a typical child; or
- a parent firmly holds a bona fide belief that the vaccine is inappropriate for the child, and:
    - has a signed document from a physician or a local public health department that the parent has received individual counseling concerning the risks and benefits of the vaccine to the child and to public health and
    - the parent furnishes a signed personal statement explaining the reasons for the exemption and understanding that the child may be removed from school in the event of the occurrence of a communicable disease.

A public health department may also decline to issue a certificate of exemption to protect the child or the public's health after considering applicable vaccination rates, the community's vulnerability to outbreaks of vaccine-preventable disease, and the prevalence of vaccine-preventable disease circulating within the jurisdiction.

Certificates of Exemption from Vaccination expire 12 months after their issuance.

Criteria for Considering School-Mandated Vaccines:

Assumptions:

- A process exists for parents to opt out of immunization requirements;
- The vaccine(s) containing the antigen is accessible,
- Cost is not a barrier;
- The vaccine has been provided to all children for free for at least 2 years, though the waiting period could be waived if there is a "pressing public health need".

10 Criteria:

1. The vaccine is ACIP recommended and included in its recommended immunization scheduled for children
2. Effectiveness is established by immunogenicity
3. Vaccine is cost effective from a society perspective and is as cost-effective as other vaccines
4. Vaccine is safe with an acceptable level of adverse effects
5. Vaccine prevents disease that is a public health burden
6. Vaccine reduces transmission risk
7. There is public acceptance of the vaccine among the public and the medical community
8. The burden of compliance is low – on schools, providers, and governmental public health
9. The burden of compliance is reasonable for the parents/caregivers

10. The vaccine has a direct relationship to increasing safety in the school environment

Source:
A Critique of Criteria for Evaluating Vaccines for Inclusion in Mandatory School Immunization Programs
Pediatrics August 1, 2008
http://www.pediatrics.org/cgi/content/full/122/2/e504
PEDIATRICS Vol. 122 No. 2 August 2008, pp. e504-e510 (doi:10.1542/peds.2007-3218)

EXCERPTS FROM CURRENT LAW ON EXEMPTIONS TO SCHOOL MANDATED VACCINES: – TITLE 20-A

§6355. Enrollment in school

A superintendent may not permit any child to be enrolled in or to attend school without a certificate of immunization for each disease or other acceptable evidence of required immunization or immunity against the disease, except as follows. [2001, c. 326, §2 (AMD).]

1. Written assurance. The parent provides a written assurance the child will be immunized within 90 days by private effort or provides, where applicable, a written consent to the child's immunization by a health officer, physician, nurse or other authorized person in public or private employ.
[1983, c. 661, §8 (NEW) .]

2. Medical exemption. The parent or the child provides a physician's written statement that immunization against one or more of the diseases may be medically inadvisable.
[2001, c. 326, §2 (AMD) .]

3. Philosophical or religious exemption. The parent states in writing a sincere religious belief that is contrary to the immunization requirement of this subchapter or an opposition to the immunization for philosophical reasons.
[2001, c. 326, §2 (AMD) .]
SECTION HISTORY
1983, c. 661, §8 (NEW). 2001, c. 326, §2 (AMD).

Title 20-A
Section 6359

2. Immunization. Except as otherwise provided under this section, every student shall have administered an adequate dosage of an immunizing agent against each disease as specified by rule.

Any such immunizing agent shall meet standards for the biological products, approved by the United States Public Health Service and the dosage requirement specified by the Department of Health and Human Services.
[2001, c. 326, §5 (AMD); 2003, c. 689, Pt. B, §6 (REV) .]

3. Enrollment of school. No chief administrative officer may permit any student to be enrolled in or to attend school without a certificate of immunization for each disease or other acceptable evidence of required immunization or immunity against the disease, except as follows.

A. The parent or the student provides a physician's written statement or a written statement from a school health provider that immunization against one or more of the diseases may be medically inadvisable. [1991, c. 146, §3 (AMD).]

B. The student or the parent, if the student is a minor, states in writing a sincere religious belief, which is contrary to the immunization requirement of this subchapter or an opposition to the immunization for philosophical reasons. [2001, c. 326, §6 (AMD).]

[2001, c. 326, §6 (AMD) .]

LD 735 WOULD ADD: C. The student or the parent, if the student is a minor, has signed a waiver that states an acknowledgment and acceptance of the risk of allowing the student to attend school without the required immunization.

EXCERPTS FROM JOINT MAINE DHHS/DOE RULES ON SCHOOL IMMUNIZATIONS:

http://www.maine.gov/sos/cec/rules/10/144/144c261.doc

10-144 DEPARTMENT OF HUMAN SERVICES
BUREAU OF HEALTH
Chapter 261: IMMUNIZATION REQUIREMENTS FOR SCHOOL CHILDREN
A joint rule with
05-071 DEPARTMENT OF EDUCATION (COMMISSIONER)
Chapter 126: IMMUNIZATION REQUIREMENTS FOR SCHOOL CHILDREN

SUMMARY: This rule is issued jointly by the Commissioner of Education and the Bureau of Health, Department of Human Services, to implement the provisions of the School Immunization Law (20-A MRSA §§6352-6358). It prescribes the dosage for required immunizations and defines record-keeping and reporting requirements for school officials.

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6. EXCLUSION FROM SCHOOL

A. **Exclusion by Order of Public Health Official**

A child not immunized or immune from a disease shall be excluded from school and school activities when in the opinion of a public health official the child's continued presence in school poses a clear danger to the health of others. The superintendent shall exclude the child from school and school activities during the period of danger or until the child is immunized.

The following periods are defined as the "period of danger:"
Measles: 15 days (one incubation period) from the onset of symptoms of the last identified case.
Rubella: 23 days (one incubation period) from the onset of symptoms of the last identified case.
Mumps: 18 days (one incubation period) from the onset of symptoms of the last identified case.

Varicella: 16 days (one incubation period) from the onset of symptoms of the last identified case. (The 16-day exclusion will not take effect until the start of school year 2007 when all students K-12 are required to be immunized against varicella as indicated under Section 5 of this rule.)

B. **Exclusion by Order of Superintendent**

A superintendent shall also exclude from schools and school activities any child on account of filth or communicable disease, in accordance with 20-A MRSA §6301. The superintendent shall also exclude from public school any child or employee who has contracted or has been exposed to a communicable disease as directed by a public health official, or as recommended by a school physician.

C. **Requirement for Educational Arrangements**

For any child so excluded from school for more than 10 days, the superintendent must make arrangements to meet his educational needs.

This section does not require the provision of off-site classes or tutoring. Instead, the child's educational needs may be met by making arrangements for the delivery of school assignments, correction of papers, and similar activities which can be accomplished at home. Any child who is unable to take examinations during this period shall be afforded the opportunity to make up the examinations, similar to arrangements made for children who have other excused absences.

7. RECORDS AND RECORD-KEEPING

C. **List of Non-Immunized Children**

The designated record keeper in each school unit or school shall keep a listing of the names of all children within the school unit or school who are not currently immunized against each disease. This list shall include the names of all students with authorized exemptions from immunization as well as any who might not be in compliance with the law. The purpose of the list is to provide an efficient referral to non-immunized children in time of disease outbreaks.

A child who has not received all the required doses of vaccine shall not be permitted to attend school beyond the first day without a statement which indicates the child will be immunized by private effort within ninety days (or the parent grants written consent for the child's immunization by a public health officer, physician, nurse or other authorized person acting as an agent of the school), unless the parent is claiming an exemption due to a sincere religious belief or for philosophical reasons, or the school is presented with a medical exemption signed by the child's physician.

Maine Department of Health & Human Services
Maine Center for Disease Control and Prevention

Varicella

Investigation Protocol

Andrew R Pelletier

MD, MPH State Epidemiologist	11/25/09 Effective Date	11/2012 Review Date

Reporting Requirements

Any patient with symptoms of varicella, must be reported within 48 hours. In an outbreak setting, schools/day cares/hospitals are requested to report immediately upon suspicion of varicella.

Case Definition

Clinical case definition:
An illness with acute onset of diffuse (generalized) maculopapulovesicular rash without other apparent cause.

Laboratory criteria for Diagnosis

- Isolation of varicella from a clinical specimen, or
- Direct fluorescent antibody (DFA), or
- Polymerase chain reaction (PCR) or
- Significant rise in serum varicella immunoglobin G (IgG) antibody level by any standard serologic assay.

Case classification

Probable: A case that meets the clinical case definition, is not laboratory confirmed and is not epidemiologically linked to another probable or confirmed case.

Confirmed: A case that is laboratory confirmed or meets the clinical case definition and is epidemiologically linked to a confirmed or probable case.

Note: Two probable cases that are epidemiologically linked would be considered confirmed, even in the absence of laboratory confirmation.

Laboratory Testing Services Available

The state Health and Environmental Testing Laboratory (HETL) can perform culture and PCR from vesicular fluid, specimens of scab from lesions, cerebrospinal fluid or viral culture isolates. Saliva and biopsy tissues are also acceptable, but have not been validated for PCR assay. Nordx and ALI will also perform laboratory testing.

Vesicular fluid or scab from a single lesion is adequate.

For any suspected case of varicella, specimens to be collected and sent to HETL can include the following :

- Vesicular fluid collected onto polyester swabs and placed in sterile, screw cap tubes.
- Scab material can be placed directly into screw cap tubes.
- Cerebrospinal fluid should be placed in a sterile screw cap tube.
- Viral isolates should be placed in cryovials.
- Biopsy specimens can be placed in cryovials or in viral transport media

Vesicle fluid and scabs may be kept at ambient temperature indefinitely. Cerebrospinal fluid should be kept at refrigerator temperature (4°C). Viral isolates and biopsy specimens should be frozen and shipped on dry ice to maintain specimens in a frozen state during transit.

Case Investigation

- Case investigations should be initiated for varicella cases that occur in schools, daycares, hospitals and other institutional settings.
- Individual varicella cases in the community are not investigated.
- Varicella disease reports are entered into NEDSS by MMWR week for aggregate reports by central epidemiologist.
- School nurses should submit a varicella disease reporting form on Friday. The form is an aggregate count of varicella cases. Field and central epidemiologist should use varicella disease reporting forms for outbreak investigations. Forms should be faxed to central office.
- Central office submits weekly aggregate varicella cases by county and submitter to federal CDC.

Recommendations for Control of Case and Contacts

Recommendations for Case

Case should be excluded from social, academic and employment activities until rash has crusted (usually in 5 days), or in immunized people without crusts (macules and papules), until lesions are resolving.

Recommendations for Contacts

Potential interventions for contacts without evidence of immunity include the varicella vaccine administered ideally within 3 days but up to 5 days after exposure. VariZIG can be administered for individuals with significant exposure and/or who are at high risk.

VariZIG is considered investigational, the FDA requires the following: informed consent by the patient or his/her representative, approval by an institutional review board, adherence to the study protocol, case report forms and a record of drug disposition. VariZiG costs $128.34 per 125 IU vial and will be shipped overnight from California. See Attachment 1. Immune Globulin Intravenous and acyclovir are other options.

Note: All school aged children in schools are required to have one documented dose of the varicella vaccine by state statue. Children age 13 and over with no reliable history of varicella or vaccination should receive 2 doses of varicella given at least 4 weeks apart. Pregnant contact exposure should be discussed with a medical epidemiologist.

Exclusions

Case
Case should be excluded from social, academic and employment activities until rash has crusted (usually in 5 days), or in immunized people without crusts, until lesions are resolving.

Symptomatic Contacts
Same as above

Asymptomatic Contacts
No exclusions for varicella vaccinated individuals. Unvaccinated students, unvaccinated day care attendees, and students with incomplete varicella immunization records must be excluded for 16 days from the onset of symptoms of the last identified case.

Managing Special Situations: Schools, Daycares, Healthcare Settings

Schools/Daycares

1 case
Central office will be notified by school nurses/daycare administrators of a varicella case. Central office will send out consult to field epidemiologist. Field epidemiologist will recommend exclusion for the varicella case and any unvaccinated students who are in the same classroom/bus/school activities as the varicella case. The varicella case must be diagnosed by a medical practitioner. The epidemiologist will obtain information about school cases exposure on bus routes and school activities. A letter will be provided to the school nurse/administrator to distribute to the classroom with a varicella case, if needed. See attachment 8 for school letter and attachment 9 for more details on exclusions.

2-4 cases

Field epidemiologist will recommend exclusion for the varicella cases and for unvaccinated students who are in the same building as the varicella cases. The epidemiologist will receive the date of onset for each varicella case. School exclusions are 16 days from the onset of the last confirmed case. A letter will be sent out to the entire building outlining disease information and exclusion criteria, if needed. Central epidemiologist will assist with general calls. Central office will gather varicella case reports from school nurses/day care administrators. Contacts of cases will not be

investigated. Field epidemiologist will consult with central and medical epidemiologists to decide if an outbreak team is needed when there are 3 to 4 cases in a facility. If a field epidemiologist is unable to lead the outbreak an outbreak coordinator will be requested. See attachment 10 for more details on exclusions.

5 or more cases
Central and field epidemiologist will form an outbreak team based on the case distribution, and vaccination status of the school and/or community. ID epi and the medical epidemiologist will decide on the need for a vaccination clinic and make recommendations to MIP.

Note:
School nurse will notify central office for every varicella case on the day of the event. School nurses fax the disease report to central office every Friday.

High School Immunity Documentation

MIP and the Department of Education had an understanding as of the date of the full implementation of the Varicella rules (2007). The understanding was that the following constitutes proof of history of disease:

- Documentation accepted for students in grades 9-12 include, date written on the front cover of the health record, nurse's note in the health record stating parent called and reported disease, **parent note signed stating child had disease with date (if possible)** or doctor's note stating positive for disease.
- Parents of students not falling into any of these categories will be encouraged to have their child immunized and will be informed by school nurses that they will be excluded in the event of a varicella outbreak.

This only applied to students from grade 9-12, and that this will be phased out as soon as this cohort of student (2007-2008) passed through high school in 2012-2013.

Health Care Workers

Employees exposed to a case of varicella who are not immunized or have proof of immunity against varicella should be excluded from the worksite.

The chief administrative officers shall exclude the employee during one incubation period, 16 days, even if the employee becomes vaccinated. Please discuss hospital exposures with medical epidemiologist, and review Varicella-Zoster Infections Control Measures, Red Book 28th edition, page 718-720.

Note: For any case that involves disease spread to multiple schools, daycares, universities and healthcare settings, Infectious Disease Epidemiology will establish an outbreak team, after the lead investigator completes the initial case investigation. MIP will be notified in outbreak situations and may assist in follow-up related to disease control recommendations.

References

See the following references for clinical information including identification, description of infectious agent, occurrence, reservoir, mode of transmission, incubation period, period of communicability, susceptibility, and further clinical information.

- Committee on Infectious Diseases. *Red Book*, 2009 Report of the Committee on Infectious Diseases. 28th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2009.

- Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Atkinson W, Hamborsky J, McIntyre L, Wolfe S, eds. 11th ed. Washington DC: Public Health Foundation, 2009.

- Heymann, David L., MD. *Control of Communicable Diseases Manual*. 19th ed. Washington, DC: American Public Health Association, 2008.

- Centers for Disease Control and Prevention. Strategies for the Control and Investigation of Varicella Outbreaks 2008. Lopez A, Marin M. http://www.cdc.gov/vaccines/vpd-vac/varicella/outbreaks/manual.htm

- Center for Disease Control and Prevention. Case Definitions for Infectious Conditions under Public Health Surveillance, Varicella. 2009. http://www.cdc.gov/ncphi/disss/nndss/casedef/varicella_current.htm

- Maine law on immunization for schools http://www.maine.gov/education/sh/immunizations/Imm06.pdf

- Maine law on immunization for post secondary schools www.maine.gov/sos/cec/rules/10/144/144c262.doc

- Maine law on immunization for daycares http://www.maine.gov/sos/cec/rules/10/148/148c032.doc

- Maine Law on immunizations for healthcare workers http://www.maine.gov/dhhs/boh/ddc/_immunization/_documents/Immunization%20rules%20HCW.pdf

Attachments

1. VarZIG administration guidelines
2. Maine CDC Varicella Case Reporting Form
3. Varicella Fact Sheet
4. School Letter
5. Varicella Flow Chart for One Case
6. Varicella Flow Chart for >1 Case
7. Varicella Investigation Form

Attachment 1

Candidate for VariZIG or Acyclovir, provided significant[1] exposure has occurred[2]

- Immunocompromised children[3] without history of varicella or varicella immunization[4]
- Pregnant women without evidence of immunity[5]
- Newborn infant whose mother had onset of chickenpox within 5 days before delivery or within 48 hours after delivery
- Hospitalized preterm infant (28 week or more of gestation) whose mother lacks a reliable history of chickenpox or serologic evidence of protection against varicella
- Hospitalized preterm infants (less than 28 week of gestation or birth weight 1000g or less), regardless of maternal history of varicella or varicella-zoster serostatus

[1] Significant exposure is based on variety of factors (time, distance, setting). Discuss with medical epidemiologist.
[2] Committee on Infectious Diseases. *Red Book*, 2009 Report of the Committee on Infectious Diseases. Pg 721. 28th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2009.
[3] Including children who are infected with human immunodeficiency virus
[4] Immunocompromised adolescents and adults without evidence of immunity should receive VariZIG
[5] If VariZIG is not available, clinicians may choose to administer Immune Globulin Intravenous or closely monitor the pregnant woman for signs and symptoms of varicella and institute treatment with acyclovir if disease develops.

10-144 DEPARTMENT OF HUMAN SERVICES

BUREAU OF HEALTH

Chapter 261: IMMUNIZATION REQUIREMENTS FOR SCHOOL CHILDREN

A joint rule with

05-071 DEPARTMENT OF EDUCATION (COMMISSIONER)

Chapter 126: IMMUNIZATION REQUIREMENTS FOR SCHOOL CHILDREN

SUMMARY: This rule is issued jointly by the Commissioner of Education and the Bureau of Health, Department of Human Services, to implement the provisions of the School Immunization Law (20-A MRSA §§6352-6358). It prescribes the dosage for required immunizations and defines record-keeping and reporting requirements for school officials.

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1. DEFINITIONS

The definitions in this rule are those adopted in the School Immunization Law and include the following:

Certificate of Immunization. "Certificate of immunization" means a written statement from a physician, nurse or public health official who has administered an immunizing agent to a child, specifying that the required dosage was administered and the month, day and year in which it was administered.

Children Entering School / School Enterers. "Children entering school / school enterers" means any child who enters a school for the first time via kindergarten enrollment, transfers from one school to another, or otherwise enrolls in a school for the first time.

Disease. "Disease" means diphtheria, varicella (chickenpox), measles, mumps, pertussis, poliomyelitis, rubella and tetanus.

Immunizing agent. "Immunizing agent" means a vaccine, toxoid or other substance used to increase an individual's immunity to disease.

Parent. "Parent" means a child's parent, legal guardian or custodian. A person shall be regarded as a child's custodian if that person is an adult and has assumed legal charge and care of the child.

Public health official. "Public health official" means the Director of the Bureau of Health, or any designated employee or agent of the Department of Human Services.

School. "School" means any public and private elementary and secondary and special education facility which operates for children of compulsory school age.

Student Health Record. "Student Health Record" means documentation of health information and school nursing services provided to individual students including, but not limited to, immunizations, health screening, health assessment, and nursing care plans as needed.

Superintendent. "Superintendent" means the superintendent of a school administrative unit or his designee, or the chief administrative officer of a private school.

2. IMMUNIZATION REQUIRED

A. Parental Responsibility

Except as otherwise provided by law, every parent shall cause to be administered to his child the required dosage of an immunizing agent against each disease.

B. Superintendents' Responsibility

No superintendent may permit any student to be enrolled in or to attend school without a certificate of immunization for each disease or other acceptable evidence of required immunization or immunity against each disease.

3. EXCEPTIONS

A. Enrollment Without Immunization Information

A child who does not meet the immunization/immunity requirement may be enrolled in school under the following circumstances:

1. The parent provides the school with a written assurance that the child will be immunized by private effort within ninety days of enrolling (officially registering) in school or first attendance in school classes, whichever date is the earliest.

   The granting of this 90 day period is a one-time provision. A child transferring from one school to another within the state may not be granted a second 90-day period, however, a period of 21 calendar days may be granted to allow for the transfer of health records from one school to another.

2. The parent grants written consent for the child's immunization by a public health officer, physician, nurse or other authorized person in their employ, or acting as an agent of the school, where such immunization programs are in effect.

3. The parent (or child) presents to the school each year a physician's written statement that immunization against one or more of the diseases may be medically inadvisable.

4. The parent states in writing each year an opposition to immunization because of a sincere religious belief or for philosophical reasons.

B. **Medical Exemptions**

The following are medical contraindications for which medical exemptions may be certified by a physician for immunizations required by 20-A MRSA §§ 6352-6358:

Pertussis vaccine: 1) fever greater than or equal to 40.5 C (105 F); collapse or shocklike state (hypotonic-hyporesponsive episode), or persistent, inconsolable crying lasting three or more hours within 48 hours of receiving a prior dose of pertussis vaccine; 2) seizures occurring within 3 days of receiving a prior dose of pertussis vaccine; 3) encephalopathy within 7 days of administration of a previous dose of pertussis vaccine; 4) anaphylactic reaction to pertussis vaccine or a vaccine constituent; or 5) the student has reached the seventh birthday.

Diphtheria or tetanus toxoids: 1) anaphylactic reaction to diphtheria or tetanus toxoids or a toxoid constituent..

Measles or mumps vaccine: 1) pregnancy; 2) known altered immunodeficiency (hematologic and solid tumors; congenital immunodeficiency; and long-term immunosuppressive therapy); 3) anaphylactic reactions to egg ingestion or to neomycin; 4) anaphylactic reaction to measles or mumps vaccine or a vaccine constituent.

Rubella vaccine: 1) pregnancy; 2) known altered immunodeficiency (hematologic and solid tumors; congenital immunodeficiency; and long-term immunosuppressive therapy); 3) anaphylactic reactions to neomycin; 4) anaphylactic reaction to rubella vaccine or a vaccine constituent.

Live polio vaccine: 1) known altered immunodeficiency (hematologic and solid tumors; congenital immunodeficiency; long-term immunosuppressive therapy); other immunodeficient condition; 2) immunodeficient household contact; 3) anaphylactic reaction to polio vaccine or a vaccine constituent.

or

Inactivated polio vaccine: 1) anaphylactic reactions to neomycin or streptomycin; 2) anaphylactic reaction to polio vaccine or a vaccine constituent.

Varicella: 1) pregnancy; 2) immunosuppression; 3) anaphylactic reaction to a vaccine component ; 4) recent recipient of antibody-containing blood product.

4. CERTIFICATE OF IMMUNIZATION; EVIDENCE OF IMMUNITY

A. **Certificate of Immunization**

To demonstrate adequate immunization against each disease, a child shall present the school with a Certificate of Immunization from a physician, nurse or public health official who has administered the immunizing agent(s) to the child. The certificate shall specify the immunizing agent, the dosage administered and the date(s) on which it was administered.

B. **Proof of Immunity**

The child shall present the school with laboratory evidence demonstrating immunity or reliable documented history provided by a physician or other primary care provider.

5. IMMUNIZATION DOSAGE

The following schedule is the schedule of minimum requirements for immunizing agents administered to children entering school.

Diphtheria/Pertussis/Tetanus: Five doses of any DTP containing vaccine or DT (pediatric). If the fourth dose was administered on or after the fourth birthday, then only four doses are required. The first dose must be administered at least 6 weeks after birth. The first three doses must be given at least 4 weeks apart and the fourth dose must be given at least 6 months after the third dose.

Td (Adult) may be substituted for DTP containing vaccine for non-immunized or incompletely immunized students who have reached the seventh birthday. If administering Td (Adult) vaccine, only 3 doses are required, with the first two doses given at least 4 weeks apart and the third dose given 6 months after the second.

Measles/Mumps/Rubella: All students in grades kindergarten - 12 shall be immunized against measles, mumps, and rubella with 2 doses of MMR vaccine, provided the first dose is administered no sooner than 12 months of age and at least 4 weeks separate the 2 doses.

Poliomyelitis: Four doses of oral polio vaccine. The first dose of OPV must be administered at least 6 weeks after birth, with subsequent doses given at least 4 weeks apart. The fourth dose is not needed if the third dose is given on or after the 4th birthday.

or

Four doses of inactivated polio vaccine. The first dose of IPV must be administered at least 6 weeks after birth, with subsequent doses given at least 4 weeks apart. The fourth dose is not needed if the third dose is given on or after the 4th birthday. An all-IPV schedule is the preferred schedule for routine polio vaccination, including children who began the series with OPV. If a child receives both types of vaccine, four doses of any combination of IPV or OPV by 4-6 years of age is considered a complete polio vaccination series.

Varicella: Effective for the start of school year 2003, 1 dose of varicella vaccine is required for children entering kindergarten and 1st grade, with implementation of additional grades to occur as follows:

a) Start of school year 2003 – Kindergarten and 1st grade (K-1)

b) Start of school year 2004 – K-2 and grade 9

c) Start of school year 2005 – K-3 and 6, 9 and 10

d) Start of school year 2006 – K-4 and 6, 7, 9, 10 and 11

e) Start of school year 2007 – K-12

Children age 13 and over with no reliable history of chickenpox or vaccination should receive 2 doses of varicella given at least 4 weeks apart.

Any such immunizing agent must meet the standards for such biological products as are approved by the United States Public Health Service.

6. EXCLUSION FROM SCHOOL

A. Exclusion by Order of Public Health Official

A child not immunized or immune from a disease shall be excluded from school and school activities when in the opinion of a public health official the child's continued presence in school poses a clear danger to the health of others. The superintendent shall exclude the child from school and school activities during the period of danger or until the child is immunized.

The following periods are defined as the "period of danger:"

Measles: 15 days (one incubation period) from the onset of symptoms of the last identified case.

Rubella: 23 days (one incubation period) from the onset of symptoms of the last identified case.

Mumps: 18 days (one incubation period) from the onset of symptoms of the last identified case.

Varicella: 16 days (one incubation period) from the onset of symptoms of the last identified case. (The 16-day exclusion will not take effect until the start of school year 2007 when all students K-12 are required to be immunized against varicella as indicated under Section 5 of this rule.)

B. Exclusion by Order of Superintendent

A superintendent shall also exclude from schools and school activities any child on account of filth or communicable disease, in accordance with 20-A MRSA §6301. The superintendent shall also exclude from public school any child or employee who has contracted or has been exposed to a communicable disease as directed by a public health official, or as recommended by a school physician.

C. Requirement for Educational Arrangements

For any child so excluded from school for more than 10 days, the superintendent must make arrangements to meet his educational needs.

This section does not require the provision of off-site classes or tutoring. Instead, the child's educational needs may be met by making arrangements for the delivery of school assignments, correction of papers, and similar activities which can be accomplished at home. Any child who is unable to take examinations during this period shall be afforded the opportunity to make up the examinations, similar to arrangements made for children who have other excused absences.

7. RECORDS AND RECORD-KEEPING

A. Designated Record Keeping

The school nurse (or head school nurse) in each school unit or private school shall be responsible for the maintenance of immunization records. If no school nurse has been employed, the superintendent shall designate another responsible person.

If immunization and school health records are maintained in individual school buildings, a designated person in each building shall have responsibility for supervision of the records.

B. Individual Health Records

Each school/unit shall adopt a uniform permanent student health record for maintaining information regarding the health status of each child as defined under Section 1.

The immunization status of each student regarding each disease shall be noted on the child's individual student health record. These records are confidential, except that state and local health personnel shall have access to them in connection with ensuring compliance with these regulations or an emergency, as provided by the United States Family Educational Rights and Privacy Act of 1974, 20 U.S.C. §1232g(b)(1) and the regulations adopted under that act.

Where an exemption has been granted for sincere religious or philosophical reasons, the parent's written request for exemption must be on file with the school health record and updated annually.

C. List of Non-Immunized Children

The designated record keeper in each school unit or school shall keep a listing of the names of all children within the school unit or school who are not currently immunized against each disease. This list shall include the names of all students with authorized exemptions from immunization as well as any who might not be in compliance with the law. The purpose of the list is to provide an efficient referral to non-immunized children in time of disease outbreaks.

A child who has not received all the required doses of vaccine shall not be permitted to attend school beyond the first day without a statement which indicates the child will be immunized by private effort within ninety days (or the parent grants written consent for the child's immunization by a public health officer, physician, nurse or other authorized

person acting as an agent of the school), unless the parent is claiming an exemption due to a sincere religious belief or for philosophical reasons, or the school is presented with a medical exemption signed by the child's physician.

8. REQUIRED REPORTS

A. Superintendent's Responsibility

The superintendent is responsible for submitting a summary report regarding the immunization status of students within his or her jurisdiction by December 15 of each year, on a prescribed form, to the Director of the Bureau of Health and the Commissioner of Education.

B. Summary Report

The summary report will include the following information at a minimum: specific information identifying the school, the superintendent; the total student enrollment, the number of new students identified by vaccine type, as either immunized, exempt or out of compliance, and the number of students who are previously enrolled and unimmunized. The summary report will be constructed so as to reflect meaningful data by grade groupings but with kindergarten treated separately. Each report shall be signed by the school superintendent as a certification that the information is accurate and complete.

The Bureau of Health will from time to time select a small sample of student health records for the purpose of comparing reported results against the criteria delineated in these rules. The results of this sample survey will be shared with school superintendents for the purpose of identifying problem areas that may be occurring in the completion of their school health records. Individual students will not be identified by name.

Additional requirements regarding the immunization of children or employees of any school may be adopted by ordinance of the municipality, regulation of a school board policy, or policy of a private school's governing board.

STATUTORY AUTHORITY: 20-A MRSA §6352-6358

EFFECTIVE DATE:
May 29, 1985

EFFECTIVE DATE (ELECTRONIC CONVERSION):
May 5, 1996

AMENDED:
July 14, 1996. *(APA Office Note: the Education Department version, 05-071 Ch. 126, does not appear to have been amended since May 29, 1985.)*

NON-SUBSTANTIVE CORRECTIONS:
January 15, 2002 - minor formatting, history notes

AMENDED:
May 26, 2002