

Mississippi law mandates that all children attending school must be vaccinated against certain diseases. All states have similar laws but vary in the number and type of exemptions allowed. This Issue Brief summarizes the scientific literature on the safety and efficacy of childhood immunizations, outlines the legal environment for Mississippi's policies, and examines policy issues related to exemptions.

Safety and Efficacy of Childhood Immunizations

NUMBER OF CASES IN MISSISSIPPI

YEARS	MEASLES	MUMPS
1915-25	163,977	46,702
1926-35	138,483	46,828
1936-45	124,069	74,533
1946-55	36,454	9177
1956-65	22,231	5,431
1966-75	4,550	2,926
1976-85	455	310
1986-95	114	*
1996-05	0	61
2006-13	0	8

YEARS	POLIO	PERTUSSIS
1915-25	769	104,057
1926-35	395	109,876
1936-45	1,089	91,868
1946-55	3,725	9,734
1956-65	490	1,475
1966-75	0	231
1976-85	0	99
1986-95	*	*
1996-05	0	151
2006-13	0	769

* Data not available

VACCINE INJURY REPORTING & COMPENSATION

In recognition that adverse events do occur, Congress enacted the National Childhood Vaccine Injury Act (NCVIA) of 1986 which required the establishment of the Vaccine Adverse Event Reporting System (VAERS) to ensure that vaccine safety is monitored and established the Vaccine Injury Compensation Program (VICP) to compensate individuals for injury caused by vaccines. As of January 2011, the VICP had awarded compensation of more than \$2.1 billion to more than 2,500 families and individuals.

Vaccines have prevented an estimated 103 million cases of childhood diseases since 1924, and nearly 26 million cases in the past decade alone. In the U.S., the widespread adoption of immunization practices has been credited with reducing the burden of disease. The Centers for Disease Control and Prevention (CDC) reports that deaths by smallpox and polio were eliminated over the course of the last century, and deaths by the other seven vaccine-preventable diseases for which childhood immunization is recommended have been drastically reduced as well. In Mississippi, similar trends have been detected for vaccine-preventable diseases after the widespread implementation of immunization programs (See Figure 1).

FIGURE 1. INCIDENCE OF SELECTED VACCINE-PREVENTABLE DISEASES, MISSISSIPPI (1915-2013)



* Data not available from 1985-1995

Source: Mississippi State Department of Health, Office of Epidemiology. (2014). See Sidebar: "Number of Cases in Mississippi" for detailed data.

A recent comprehensive review of 67 different studies on the safety of vaccines examined adverse events associated with childhood immunizations and concluded that these events were extremely rare and absolute risk was low.

State Mandates and Exemptions

HERD IMMUNITY

Prevention of vaccine-preventable diseases in a population relies on the development of a minimum level of shared immunity in the community, commonly referred to as “herd immunity.” The concept is based on the fact that no vaccine is 100 percent effective at preventing disease, and that some vaccines cannot be given to people with conditions that affect their immune systems (e.g. measles vaccine is contraindicated in children with poor immunity due to cancer). Herd immunity is established if enough members of a community are vaccinated so as to protect those members who either failed to develop immunity from a vaccination or were unable to be vaccinated due to age or medical condition. Herd immunity also prevents sustained transmission, rapidly causing outbreaks to subside.

HERD IMMUNITY THRESHOLDS FOR SELECTED VACCINE-PREVENTABLE DISEASES

DISEASE	THRESHOLD
DIPHTHERIA	85%
MEASLES	83-94%
MUMPS	75-86%
PERTUSSIS	92-94%
POLIO	80-86%
RUBELLA	83-85%
SMALLPOX	80-85%

Source: Centers for Disease Control. Slide presentation: History and epidemiology of global smallpox eradication. Retrieved 10/14/14 from: www.bt.cdc.gov/agent/smallpox/training/overview/pdf/eradicationhistory.pdf

VACCINE-PREVENTABLE DISEASES TARGETED BY IMMUNIZATIONS REQUIRED FOR SCHOOL ENTRY IN MISSISSIPPI (2014-15):

- Diphtheria
- Tetanus
- “Whooping cough” (acellular pertussis)
- Polio
- Hepatitis B
- Measles
- Mumps
- Rubella
- Chicken pox (varicella)

ADDITIONAL DISEASES TARGETED BY IMMUNIZATIONS REQUIRED FOR ENROLLMENT IN A LICENSED CHILD CARE FACILITY (2014-15):

- Meningitis
- Pneumonia

Laws and ordinances requiring vaccination date back to 1827. Measles outbreaks in the 1960s and 1970s prompted those states without school vaccination laws to enact them. By 1980, all states had mandatory school immunization laws. Mandatory vaccination policies are intended to protect a community from disease by ensuring a sufficient level of immunity necessary to disrupt the transmission of the disease, a concept known as “herd immunity” (see sidebar).

Exemptions from vaccine requirements vary by state. All states allow medical exemptions, with different degrees of administrative requirements. Nineteen states allow philosophical exemptions. All states but two (Mississippi and West Virginia) allow religious exemptions.

Mandatory Immunization in Mississippi

Mississippi law (§41-23-37) requires that a child be vaccinated against those diseases specified by the state health officer before attending school, unless the child has a certificate of exemption for medical reasons. The law applies to children attending public and private schools, with the exception of a home school program as defined in state law. The immunization requirements defined by the state health officer are based on the recommendations of the national Advisory Committee on Immunization Practices (ACIP). State law further requires that schools certify to the State Department of Health that all children enrolled are in compliance with immunization requirements.

The Mississippi State Department of Health (MSDH) recommends, but does not require, that vaccinations be given at intervals advised by the ACIP schedule. Parents and caregivers may work with their health care provider to schedule immunizations as they wish, as long as the child is immunized prior to school entry. Children who are home-schooled and not attending a licensed child care center are not required to be immunized.

Mississippi law allows exemptions only for medical reasons. The state health officer has ultimate authority to judge if an exemption “will not cause undue risk to the community.” In 2012, MSDH adopted a policy to accept any medical exemption for any medical reason if the request was submitted by a Mississippi licensed primary care physician. All such requests have been granted following verification of proper submission. This process requires a letter to be submitted to MSDH from a primary care physician licensed by the state of MS that lists a medical reason for the exemption and a list of vaccines to be exempted, along with the duration of the exemption. The number of exemptions granted in the state for the past three years were as follows: 106 (2011-2012), 109 (2012-2013), and 121 (2013-2014).

Impact of Exemptions

One of the central tensions in the debate over mandatory immunization policy arises when the public health benefit of immunizing children conflicts with the desire of parents who want more control over their child’s medical care. These parents argue that the absence of a philosophical exemption does not allow parents the choice to opt out of a requirement which they believe may put their child at risk for injury.

Communities with low immunization rates have experienced a resurgence of vaccine-preventable diseases across the world.

The number of requests for nonmedical exemptions from immunization requirements has been increasing nationwide, leading to concern in the public health community of greater risk for disease outbreaks. A 2012 study comparing types of exemptions showed that states that allowed philosophical exemptions experienced nonmedical exemption rates two and a half times higher than rates of nonmedical exemption in states that allowed only religious exemptions. A relationship has also been established between the ease of obtaining an exemption and the increase of disease risk in a community. Communities with low immunization rates have experienced resurgence of vaccine-preventable diseases across the world. An analysis of bills introduced in state legislatures between 2009 to 2012 related to personal belief exemptions showed that all proposals to expand exemptions failed, and the majority of legislation to restrict exemptions passed.

MISSISSIPPI SUPREME COURT DECISION, BROWN V. STONE (1979)

a landmark ruling on childhood immunization requirements

The precedent for Mississippi's current school immunization law, which allows for only medical exemptions, can be found in *Brown v. Stone*, a 1979 state Supreme Court case in which the Court ruled that the religious exemption in Mississippi statute was unconstitutional.

The Court reasoned that a religious exemption would violate the Fourteenth Amendment since it would "require the great body of school children to be vaccinated and at the same time expose them to the hazard of associating in school with children exempted under the religious exemption who had not been immunized."

Because these same points would apply to a philosophical exemption, it is likely that a challenge based on personal beliefs would be viewed by the courts similarly.

The Court's strong stance upholding the law is summarized by their recognition of the evidence in support of the efficacy of immunization:

"The fundamental and paramount purpose of the Mississippi Legislature in the enactment of...Mississippi Code Annotated section 41-23-37 was to afford protection for school children against crippling and deadly diseases by immunization. That this can be done effectively and safely has been incontrovertibly demonstrated over a period of a good many years and is a matter of common knowledge of which this court takes judicial notice."

The Court concluded that this purpose served an "overriding and compelling public interest" and further stated:

"The protection of the great body of school children attending the public schools in Mississippi against the horrors of crippling and death resulting from poliomyelitis or smallpox or from one of the other diseases against which means of immunizations are known and have long been practiced successfully, demand that children who have not been immunized should be excluded from the school community until immunization has been accomplished...To the extent that it may conflict with the religious beliefs of a parent, however sincerely entertained, the interests of the school children must prevail. [The law] is a reasonable and constitutional exercise of the police power of the state insofar as it provides for the immunization of children before they are to be permitted to enter school."

Continuing this logic, the Court concluded:

"Therefore, we hold that the provision providing an exemption from the operation of the statute because of religious belief is in violation of the Fourteenth Amendment to the United States Constitution and therefore is void."

■ Summary

- All states have mandatory child immunization laws requiring vaccination against selected diseases before school entry.
- Mandatory school immunization laws are based on the concept that a sufficient proportion of children must be immunized in order to protect persons who either failed to develop immunity from a vaccination or were unable to be vaccinated due to age or medical condition.
- All states allow medical exemptions from this mandate, all but two allow religious exemptions, and nineteen allow philosophical exemptions.
- Because Mississippi's Supreme Court ruled in 1979 that a religious exemption was unconstitutional, Mississippi only allows medical exemptions.
- Approximately one hundred medical exemptions are granted annually by the Mississippi State Department of Health.
- There is a direct relationship between the ease of obtaining an exemption and the risk of resurgence in vaccine-preventable diseases.
- The nationwide trend in state legislative actions since 2009 has been to restrict exemptions.
- Vaccinations are generally delivered according to a schedule recommended by the national Advisory Committee on Immunization Practices. The actual schedule followed, however, is at the discretion of the parents and their child's health care provider, as long as the child is immunized prior to school entry.

■ References

For a full list of references and other resources, please visit:
www.mshealthpolicy.com/immunization-law

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