



South Carolina Institute of
Medicine & Public Health



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Childhood Immunizations in South Carolina

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South Carolina Institute of
Medicine & Public Health

About the South Carolina Institute of Medicine and Public Health

The South Carolina Institute of Medicine & Public Health (IMPH) is an independent entity serving as an informed nonpartisan convener around the important health issues in our state, providing evidence-based information to inform health policy decisions.

The purpose of this report is to provide research and data to aid policymakers and individuals in their decision-making.

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Dedication

This report is dedicated to Mr. Doug Bryant in recognition of his lifelong commitment to improving the health of South Carolinians.

Mr. Bryant served the South Carolina Department of Health and Environmental Control (SC DHEC) for 28 years, including eight years as Commissioner and eight years as Legislative Liaison. As Commissioner, Mr. Bryant was responsible for more than 6,000 public health workers, 46 county health departments and an annual operating budget of \$300 million. This tenure included working with three Governors from both parties.

Mr. Bryant has focused on improving the health status of South Carolinians for decades. Working with private physicians and health facilities, he established more than 100 public/private partnerships that increased access to medical care for women and children. These partnerships between private physicians and DHEC became a model for other states' initiatives. In 1998 these partnerships enabled South Carolina to lead the nation in immunizing children birth to two years old.

On the environmental side, Doug and his staff were recognized for achieving a recycling rate of more than 40% of the State's solid waste and for closing hazardous waste tanks at the Savannah River site. Doug was selected by the US EPA and DHHS to serve on numerous national advisory committees to the Director and Secretary. In 2001, Mr. Bryant received the Order of the Palmetto, the State of South Carolina's highest civilian honor and the Arnold School of Public Health Distinguished Alumnus Award. Last year Mr. Bryant received the 2021 Lifetime Achievement in Legislative Advocacy Award from the South Carolina Primary Health Care Association (SCPHCA).

Doug served in the US Army from 1970-73 as a medical corpsman. He received both his Bachelor's and Master's degrees in Public Health from the University of South Carolina.



Introduction

Since the 1800s, populations have benefitted from herd immunity reducing the spread of vaccine preventable diseases.^a Individuals who may not be eligible for some vaccines, or who may have a weakened immune response have relied on indirect protection from herd immunity to keep them safe from communicable diseases when high vaccination coverage is achieved in a population. The spread of COVID-19 has increased gaps in routine childhood immunization adherence. A September 2020 Centers for Medicare & Medicaid Services (CMS) fact sheet reported that preliminary data indicated a 22% reduction in childhood vaccinations for beneficiaries up to age two between 2019 and 2020.¹ A March 2021 White House press briefing revealed that the pandemic led to “substantial declines in pediatrician visits.”² This decrease, in turn, resulted in “orders for childhood vaccinations [decreasing] by about 11 million doses” since the beginning of the pandemic.³

South Carolina has experienced similar trends. According to an Institute for Child Success (ICS) survey and report, *COVID-19's Impact on Pediatric Healthcare in South Carolina: Supporting and Strengthening the Sector:*

Pediatric visits for all child health needs declined from March through May 2020. Eighty-three percent of [South Carolina pediatricians surveyed] indicated that there was a decline in vaccination and well-being appointments and over 90% reported a decline in acute and/or chronic condition visits. Further, additional data tied to the increasing prevalence of COVID-19 in South Carolina suggest [pediatric doctors' appointments] continue to be lower. As a result of this reduction in appointments in South Carolina, only 32% of expected vaccinations were administered over this period, a real-figure reduction of 10,500 compared to previous years.⁴

ICS also found that children in low-income families are “more likely to miss well-visits and vaccinations than middle/upper-income children (32% vs. 25%).”⁵ Additionally, the Researchers for the *Rapid Assessment of Pandemic Impact on Development Early Childhood Household Survey Project*, conducted between March and October 2020, reported:

We asked participants why they were unable to attend visits. Options included concern about contracting COVID-19, caring for other family members, inability to find childcare, cost, time away from work, vaccine hesitancy, and other. Concern about contracting COVID-19 was by far the most common response, endorsed by 78% of those who had been unable to attend a visit. No other option was identified by more than 20% of caregivers in the survey.⁶⁻⁷

^a According to the World Health Organization, “‘herd immunity,’ also known as ‘population immunity,’ is the indirect protection from an infectious disease that happens when a population is immune either through vaccination or immunity developed through previous infection.”

Access to Immunizations

Although vaccines are largely available across the United States, multiple barriers exist to accessing recommended childhood vaccines, leading to nonadherence and waning herd immunity in some cases. Barriers to routine childhood vaccinations may include limited access to primary care providers, lack of transportation, scheduling limitations and the complexity of the health care system.⁸

The absence of medical homes and/or accessible pediatricians in some parts of the state are also contributors to vaccine nonadherence. As of September 30, 2021, South Carolina had 101 primary care health professional shortage areas (HPSAs) affecting nearly two million people across the state.⁹ The national Children's Health Fund estimates that an excess of 14 million children across the country reside in a HPSA. A modified version of the Children's Health Fund formula shows that an estimated 111,403 children under five years old lived in HPSAs in South Carolina in 2019.^{10,b}



Insurance also plays a significant role in access to health care. Uninsured children and children insured by Medicaid have lower vaccination rates than children who are privately insured.¹¹ Data indicates that 78.3% of privately insured children, 65.6% of children insured by Medicaid and 48.3% of uninsured children born between 2015 and 2018 in the United States have received the combined seven-vaccine series recommended by the Centers for Disease Control and Prevention (CDC).^c A 2014 CDC analysis of National Immunization Survey data from 1995–2011 highlighted the effectiveness of the federal Vaccines for Children program (VFC) in reducing disparities in vaccination coverage among U.S. Children by covering costs associated with immunizations.^{d,12}

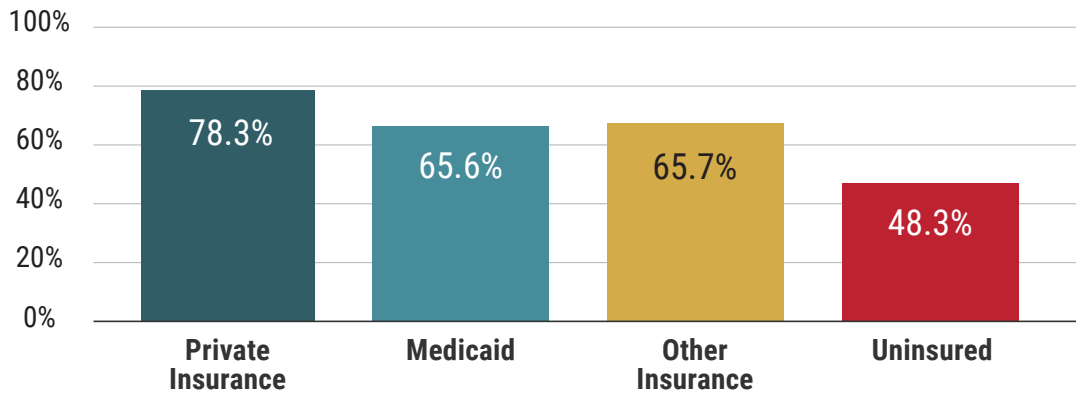
^b This estimate is based on the proportion of the South Carolina population under five (5.6%) based on the 2019 American Community Survey indicators (Table DP05; 2019 Estimates) multiplied by the number of South Carolinians living in Health Professional Shortage Areas for primary medical care (1,989,344 people).

^c The combined 7-vaccine series includes ≥ 4 doses of DTaP, ≥ 3 doses of poliovirus vaccine, ≥ 1 dose of measles-containing vaccine, the full series of Hib (≥ 3 or ≥ 4 doses, depending on product type), ≥ 3 doses of HepB, ≥ 1 dose of VAR and ≥ 4 doses of PCV.

^d Disparities in vaccination coverage between non-Hispanic white children and children of other racial/ethnic groups have declined for vaccines that have been routinely recommended since 1995. The many interventions and programs implemented during this period, including the federal Vaccines for Children program (VFC), have built a successful infrastructure for vaccination services. Reduction of disparities for these vaccines demonstrates that the strengthening of the immunization program since 1994 does reach all groups of children, laying the foundation for equity in access to new vaccines introduced over the past decade. By providing increased access to vaccination services, VFC has expanded protection of all children from vaccine-preventable diseases.

GRAPH 1

Estimated Combined Seven-Vaccine Series Coverage by 24 Months among Children Born between 2015 – 2018 in the United States by Health Insurance Status^{13,e,f}



Source: Centers for Disease Control and Prevention, 2020

Rurality

People living in rural communities are at a higher risk of experiencing poverty and are more likely to have lower levels of educational attainment, higher levels of unemployment and lower annual income relative to their urban neighbors.¹⁴ Residents in many rural counties in South Carolina do not have sufficient access to health care facilities or a medical home. Additionally, the lack of proximity to primary care providers can present a significant barrier to accessing vaccinations.¹⁵ In South Carolina, 9.3% of the state's infants and toddlers aged 0–2 lived in rural areas in 2021.¹⁶

Families with young children in rural areas face unique challenges in accessing well child visits and vaccinations. In a recent study, researchers at the University of Virginia found that children who live in rural communities attend fewer well child visits than their urban neighbors.¹⁷ Well child visits are the primary environment in which childhood vaccination occurs. Well child visits also provide an opportunity for families to establish a medical home and to build rapport and trust with a primary care provider. These visits present an opportunity for providers to educate parents about children's health care needs and the importance of preventive care.

In 2020, Charleston County (20.6 pediatricians per 10,000 children), Greenville County (12.5 pediatricians per 10,000 children), Richland County (12.2 pediatricians per 10,000 children) and Beaufort County (8.2 pediatricians per 10,000 children) had the most pediatricians per 10,000 children in the state.

By contrast, Abbeville County, Allendale County, Bamberg County, Calhoun County, Fairfield County, Hampton County, Lee County, Marlboro County, McCormick County, Union County and Williamsburg County each reported zero pediatricians per 10,000 children.¹⁸ These 11 rural counties represent 23.9% of South Carolina's 46 counties with inadequate practicing pediatricians.

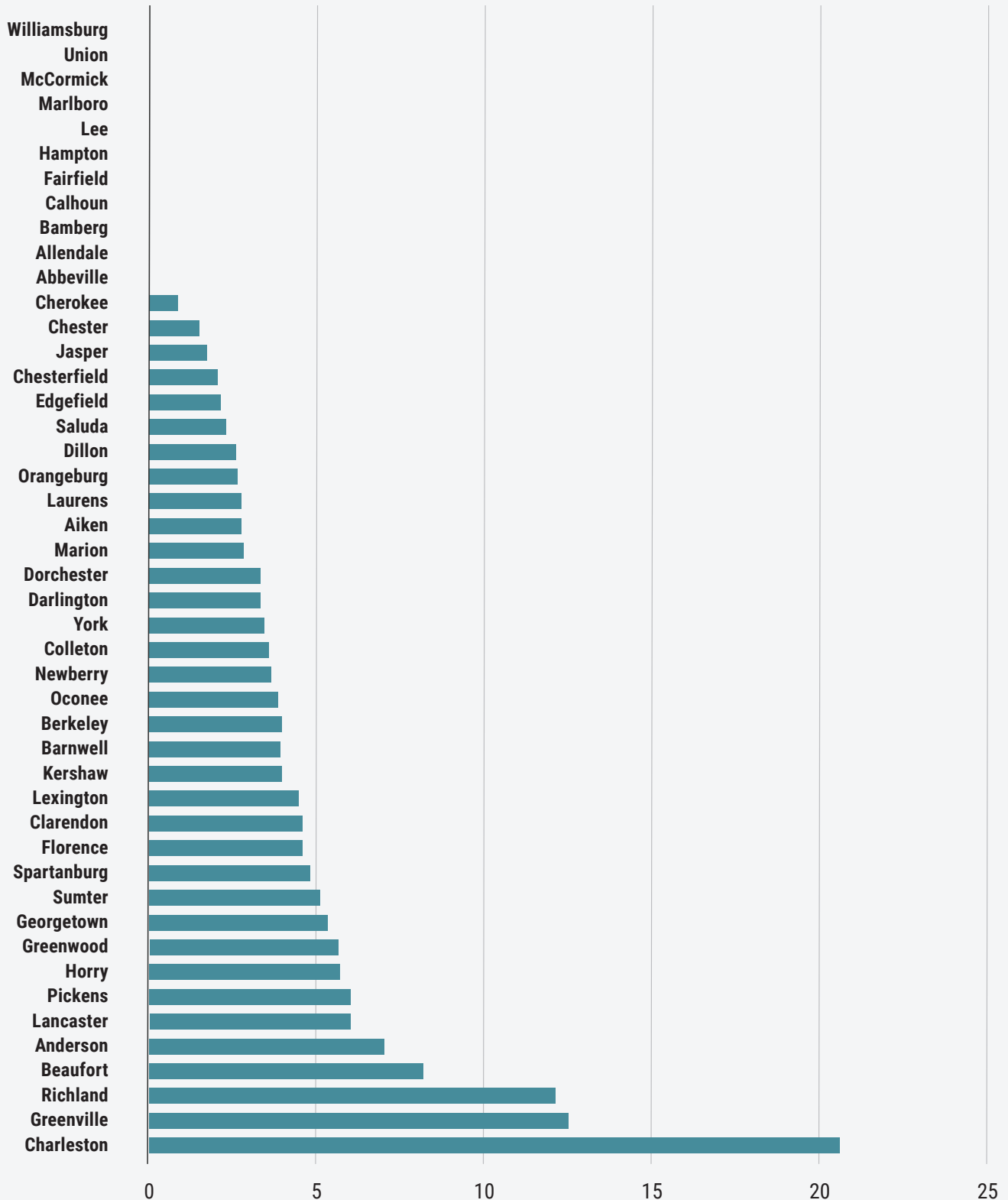
^e Includes vaccinations received by age 24 months (before the day the child turns 24 months), except for the HepB birth dose, rotavirus vaccination, and ≥ 2 HepA doses by age 35 months. For all vaccines except the HepB birth dose and rotavirus vaccination, the Kaplan-Meier method was used to estimate vaccination coverage to account for children whose vaccination history was ascertained before age 24 months (35 months for ≥ 2 HepA doses).

^f Data for the 2016 birth year are from survey years 2017, 2018 and 2019; data for the 2017 birth year are considered preliminary and come from survey years 2018 and 2019. Data from survey year 2020 are not yet available.

GRAPH 2

Number of Certified General Pediatricians per 10,000 Children by County, South Carolina, 2020¹⁹

General Pediatricians per 10,000 Children



Source: American Board of Pediatrics, 2020

Poverty

Across the country, children who live above the federal poverty line receive immunizations at a higher rate than children who live below the federal poverty line.^{20,21,22,23} In South Carolina, more than 72,670 children under six years old lived in poverty in 2019.²⁴ This figure suggest that, of the 1,108,364 children under the age of six in South Carolina in 2019, 21% lived in poverty in the year immediately prior to the coronavirus pandemic.²⁵

A 2016 Johns Hopkins University study exploring the economic consequences of vaccine nonadherence found that for every dollar the United States spends on immunization, the country saves \$16 by preventing health care costs, lost wages and lost productivity due to illness.²⁶ Similarly, a Harvard University study found that “vaccines don’t just save lives, they also have a huge economic impact on families, communities and economies” through helping families avoid both medical bankruptcy and educational disruptions due to illness.^{27,28}

Institutional Barriers

Institutional barriers directly impact vaccine availability and delivery at the systems level are compounded by poverty and rurality. These factors can include logistical barriers, medical racism, language barriers, skepticism and difficulty accessing providers due to disjointed transportation systems or inconvenient clinic hours.²⁹ Provider specific barriers to immunization can include supply chain issues, proper vaccine storage requirements, the absence of comprehensive electronic health records and the absence of a reminder system for missed vaccinations.³⁰

Experts recognize that transportation and timing also play a critical role in the delivery of childhood vaccines.³¹ Parents who are experiencing financial insecurity, have unreliable transportation, work multiple jobs or are not offered paid time off encounter additional obstacles to vaccine adherence.

Distrust in the health care system also impacts vaccine adherence. The continuum of vaccine hesitancy is often rooted in historical trauma related to health care delivery and a lack of racial or ethnic representation in the health care system.³² The history of injustices impacting people of color in health care has damaged institutional trust.³³ In a qualitative study on the issues of institutional trust, African American participants were more likely to be distrustful of a vaccine required by the government compared to white participants.³⁴

South Carolina School and Child Care Immunization Requirements

Each year, the Centers for Disease Control and Prevention (CDC) provides recommended immunization schedules for children; however, states ultimately have the authority to decide on vaccination requirements for daycares, schools and universities.^{35,36} The CDC sponsored vaccination schedule recommends that children and youth receive a total of sixteen vaccines between birth and age 18, with the majority of these vaccinations taking place between birth and eighteen months. Table one illustrates the CDC’s recommended immunization schedule by age for children and youth.

TABLE 1

Nationwide Recommended Child and Adolescent Immunization Schedule for Children and Youth by Age, 2021³⁷

Vaccine	Birth	1 mo.	2 mos.	4 mos.	6 mos.	9 mos.	12 mos.	15 mos.	18 mos.	19-23 mos.	2-3 yrs.	4-6 yrs.	
Hepatitis B (HepB)	1 st dose	2 nd dose			3 rd dose								
Rotavirus (RV): RV1 (2-dose series), RVS (3-dose series)			1 st dose	2 nd dose	See Notes								
Diphtheria, tetanus, acellular pertussis (DTaP < 7 yrs)			1 st dose	2 nd dose	3 rd dose			4 th dose				5 th dose	
<i>Haemophilus influenzae</i> type b (Hib)			1 st dose	2 nd dose	See Notes		3 rd or 4 th dose See Notes						
Pneumococcal conjugate (PCV13)			1 st dose	2 nd dose	3 rd dose		4 th dose						
Inactivated poliovirus (IPV < 18 yrs)			1 st dose	2 nd dose	3 rd dose							4 th dose	
Influenza (IIV)					Annual vaccination 1 or 2 doses								
Influenza (LAIV4)											Annual vaccination 1 or 2 doses		
Measles, mumps, rubella (MMR)					See Notes		1 st dose					2 nd dose	
Varicella (VAR)							1 st dose					2 nd dose	
Hepatitis A (Hep A)					See Notes		2-dose series, See Notes						
Diphtheria, tetanus, acellular pertussis (Tdap ≥ 7 yrs)													
Human papillomavirus (HPV)													
Meningococcal (MenACWY-D ≥ 9 mos, MenACWY-CRM ≥ 2 mos, MenACWY-TT ≥ 2 yrs)			See Notes										
Meningococcal B													
Pneumococcal polysaccharide (PPSV23)													



Range of recommended ages for all children



Range of recommended ages for catch-up immunization



Range of recommended ages for certain high-risk groups



No recommendation / not applicable

Source: Centers for Disease Control and Prevention, 2021

South Carolina Vaccination Requirements

All South Carolina public, private and parochial schools and child care facilities require a valid South Carolina Certificate of Immunization or exemption at the time of enrollment.³⁸ The South Carolina Department of Health and Environmental Control (DHEC) establishes immunization requirements in the Palmetto State. With the exceptions of HPV, Rotavirus and Influenza vaccines, South Carolina requires each of the CDC recommended vaccinations for children prior to matriculation. As a result, unless approved for an exemption, all students in South Carolina are vaccinated against the following:

- Hepatitis A
- Hepatitis B
- Diphtheria
- Tetanus
- Pertussis (“Whooping Cough”)
- Polio
- Haemophilus Influenza Type B
- Pneumococcal Disease
- Measles
- Mumps
- Rubella
- Chickenpox^{39,40}

The requirements for preschool to 4K programs and the requirements for 5k and above are illustrated in tables 2 and 3 below.

TABLE 2

2021 – 2022 South Carolina Immunization Requirements for Child Care Preschool – 4K⁴¹

Vaccine	Requirement
Diphtheria, Tetanus and Pertussis	Four (4) doses of any combination of DTP, DT or DTaP vaccine.
Polio	Three (3) doses of any combination of oral or inactivated polio vaccine.
Haemophilus Influenza Type B	Current, age-appropriate Hib vaccination according to the currently published immunization schedule. For children 15-59 months of age who have not yet completed age-appropriate Hib vaccination, one (1) dose of Hib vaccine at or after 15 months of age is required.
Measles, Mumps and Rubella	One (1) dose of MMR vaccine received on or after the first birthday.
Hepatitis A	Two (2) doses of hepatitis A vaccine with both doses received on or after the first birthday and separated by at least 6 months for any child born on or after January 1, 2019. Vaccine series must be started by 18 months of age.
Hepatitis B	Three (3) doses of hepatitis B vaccine with the third dose received >24 weeks of age and at least 16 weeks after the first dose.
Varicella	One (1) dose of varicella vaccine received on or after the first birthday or positive history of disease.
Pneumococcal	Current, age-appropriate pneumococcal vaccination according to the currently published immunization schedule. For children aged 24-59 months who have not yet completed any age-appropriate pneumococcal vaccination, one (1) dose of PCV13 on or after the 2nd birthday is required.

Source: South Carolina Department of Health and Environmental Control, 2021

TABLE 3

2021 – 2022 South Carolina Immunization Requirements for School 5K – Grade 7⁴²

Vaccine	Requirement
Diphtheria, Tetanus and Pertussis	Four (4) doses of any combination of DTP, DT, DTaP, Td, or Tdap vaccine with at least one (1) dose received on or after the fourth birthday. For children 7 years of age and older following a catch-up schedule, 3 doses may be acceptable.
Polio	Three (3) doses of oral and/or inactivated polio vaccine with at least one (1) dose received on or after the fourth birthday.
Measles, Mumps and Rubella	Two (2) doses of MMR vaccine with both doses received on or after the first birthday and separated by at least 4 weeks.
Hepatitis A	Two (2) doses of hepatitis A vaccine with both doses received on or after the first birthday and separated by at least 6 months.
Hepatitis B	Three (3) doses of hepatitis B vaccine, with the third dose received >24 weeks of age and at least 16 weeks after the first dose.
Varicella	Two (2) doses of varicella vaccine with both doses received on or after the first birthday and separated by at least 4 weeks or a positive history of disease.

Source: South Carolina Department of Health and Environmental Control, 2021

Student immunizations are tracked using a statewide immunization information system (IIS). In September 2020, DHEC launched a new IIS, the Statewide Immunization Online Network (SIMON) replacing the previous IIS, the South Carolina Immunization (SCI) registry.^{43,44,45} SIMON offers updated reporting capabilities for clinicians including provider site, region and population characteristics.⁴⁶ Maintaining current data on the number of children who are vaccinated in each region provides important insights on immunization rates in the case of an outbreak of a vaccine-preventable disease and allows stakeholders to target interventions to the appropriate areas.

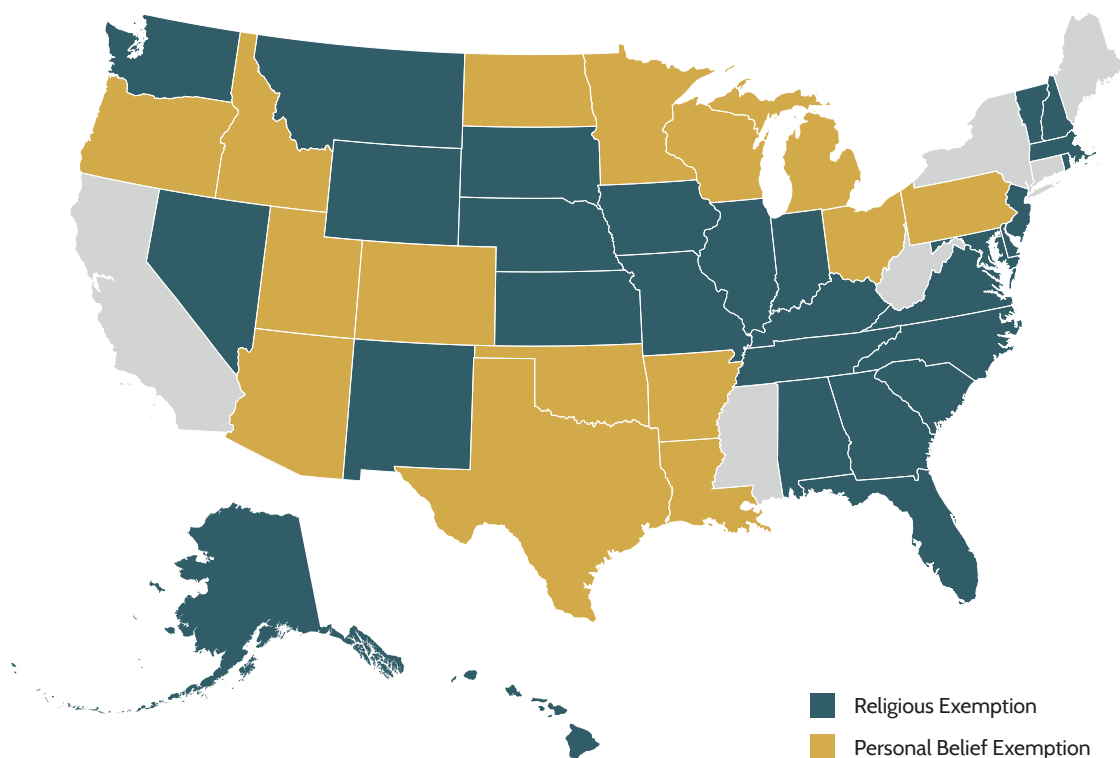
For example, shortly before the coronavirus pandemic, South Carolina and many other states experienced ongoing, statewide outbreaks of hepatitis A.⁴⁷ There were 2,208 confirmed cases of hepatitis A across the Palmetto State between November 1, 2018 and September 15, 2021.⁴⁸ The average incidence of hepatitis A in the five years prior to 2018 was 16 cases per year. Many states that implemented hepatitis A vaccine as a school entry requirement in earlier years did not experience statewide outbreaks.⁴⁹ In response, South Carolina schools and child care facilities require the hepatitis A vaccine for enrollment as of 2020.⁵⁰

Exemptions

Increasing rates of exemptions from school entry requirements have been shown to create pockets of populations that are susceptible to outbreaks of vaccine preventable diseases. In South Carolina, a valid state Certificate of Immunization for all enrolled children must be maintained by public and private child care facilities, public and private schools, parochial schools and child development programs under the South Carolina Department of Education (SCDE) unless the parents are granted an exemption. Valid exemptions in South Carolina include medical exemptions, religious exemptions and special exemptions. The map below shows which states in the U.S. allow religious and personal belief exemptions to school immunization requirements.

MAP 1

Non-Medical State Exemptions from School Immunization Requirements, 2022⁵¹



Source: National Conference of State Legislatures, adapted from the LexisNexis StateNet Database and the Immunization Action Coalition, May 2022⁵²

* The existing statutes in Minnesota and Louisiana do not explicitly recognize religion as a reason for claiming an exemption; however, as a practical matter, the non-medical exemption may encompass religious beliefs.

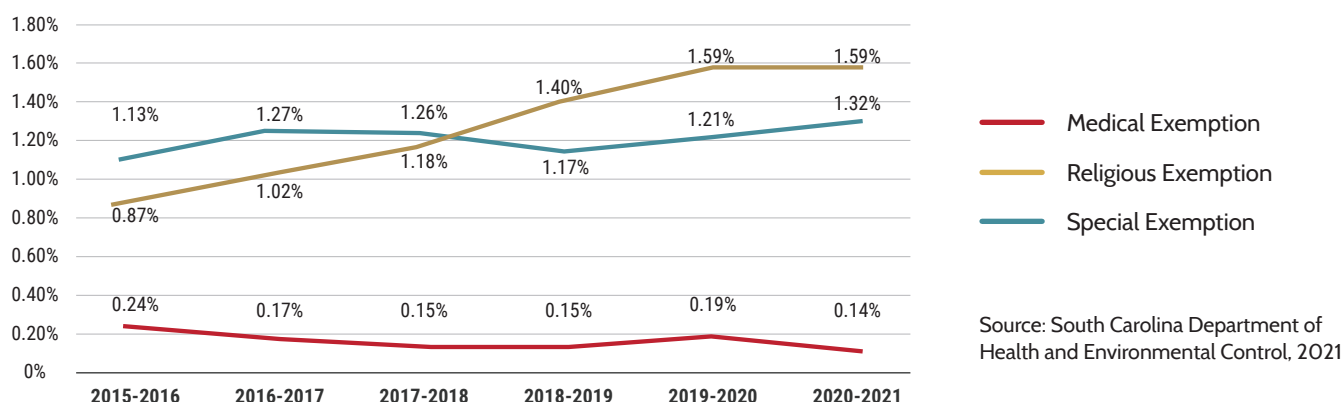
**In Virginia, parents can receive a personal exemption only for the HPV vaccine.

***Missouri's personal belief exemption does not apply to public schools, only child care facilities.

Across South Carolina, the number of medical exemptions decreased 42% between the 2015-2016 and 2020-2021 academic years. During that time period, the number of religious exemptions increased 83% while the percentage of medical and special exemptions have remained relatively stable.⁵³ Areas of particular concern can be found by examining county level exemptions. Some areas of the state show near doublings of exemptions creating pockets of populations that are more vulnerable to vaccine preventable disease outbreaks from disease importations.⁵⁴ Graph three below illustrates the change in medical and religious exemptions in South Carolina between the 2015-2016 and 2020-2021 school years.⁵⁵

GRAPH 3

Statewide Immunization Exemption Rates for all Public and Private Schools in South Carolina⁵⁶



Medical Exemptions

Some children are unable to receive vaccinations because of health conditions that may be negatively affected by a vaccine, also known as vaccine contraindications. Many vaccine contraindications are temporary, and in South Carolina the physician who issues the medical exemption determines if the Certificate of Medical Exemption is permanent.⁵⁷ The specific requirements for medical exemptions in South Carolina are listed in the South Carolina Code of State Regulations 61-8. The full text states the following:

A Medical Exemption may be granted when a licensed physician has determined, for medical reasons, that a particular vaccine(s) required by this regulation is not advisable for the child. The exemption is granted when the physician or his/her authorized representative completes and signs the South Carolina Certificate of Immunization containing the Medical Exemption. The physician must indicate whether the exemption is permanent or temporary. If the exemption is temporary, an updated South Carolina Certificate of Immunization showing proof of immunization must be presented to the school or childcare by the end of the exemption period.^{58,59}

Medical exemptions are offered in all fifty states to ensure that children with known contraindications can enroll in school and child care programs. Many of these children are at an increased risk of disease infection and complications when herd immunity is not reached.⁶⁰

For example, young children who are diagnosed with cancer prior to receiving some or all vaccinations needed for school and childcare are often required to delay their immunizations. Some chemotherapies will limit a child's capacity to maintain immunity even after receiving required vaccinations, further emphasizing the importance of herd immunity.⁶¹

Nonmedical Exemptions

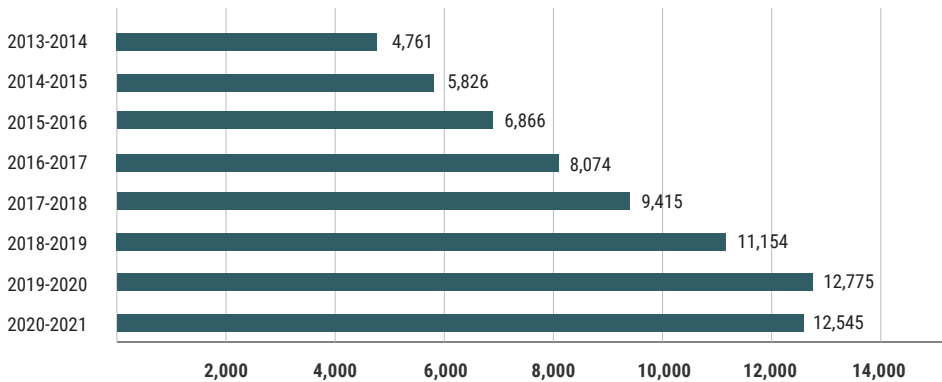
Nonmedical exemptions include both religious and philosophical exemptions and the availability of these exemptions varies by state (see Map 1 on page 9). South Carolina allows religious but not philosophical exemptions to immunization.⁶² The requirements for religious exemptions in South Carolina are listed in the Code of State Regulations 61-8. The full text states the following:

A South Carolina Certificate of Religious Exemption may be granted to any student whose parent, guardian, or person in loco parentis signs the appropriate section of the South Carolina Certificate of Religious Exemption stating that one or more immunizations conflicts with their religious beliefs. The Certificate of Religious Exemption form may only be obtained from the local health department.⁶³

Religious Exemptions

A South Carolina Certificate of Religious Exemption must be obtained from a county health department and signed by the child's caregiver and a South Carolina notary. When a child receives a religious exemption to vaccination the exemption nullifies vaccination requirements through grade 12 for any specified vaccines on the Certificate of Religious Exemption. Conversely, in some states, like Colorado, caregivers must reapply annually for nonmedical exemptions.⁶⁴ Other states, including Georgia, require signed affidavits from caregivers affirming that "vaccination is contrary to [their] religious beliefs, and that [their] objections to vaccination are not based solely on grounds of personal philosophy or inconvenience."

The number of religious exemptions across South Carolina increased 164% between the 2013-2014 academic year and the 2020-2021 academic year.^{65,66} Between 2013 and 2020, Greenville County had the greatest increase in religious exemptions in the state, granting religious exemptions to 1,506 children in the county during those seven years.^{67,68} As of the 2020-2021 academic year, Spartanburg County had the highest percentage of religious exemptions among school-aged children in South Carolina (3.39%).⁶⁹ The following chart illustrates the total number of religious exemptions in South Carolina by year, and the table below lists the number and percent of religious exemptions by county during the 2013-2014 academic year and the 2020-2021 academic year.



GRAPH 4

Number of Religious Exemptions in South Carolina by School Year, 2013 - 2020⁷⁰

Source: South Carolina Department of Health and Environmental Control, 45 Day School Immunization Assessment, 2021

TABLE 4

Religious Exemptions by South Carolina County, 2013 - 2014 and 2020 - 2021^{71,72}

County	2013/2014 School Year		2020/2021 School Year		
	#	%	#	%	% Change*
Abbeville	17	0.52%	87	2.74%	412%
Aiken	82	0.33%	188	0.75%	129%
Allendale	0	0.00%	1	0.11%	Undefined
Anderson	176	0.56%	518	1.63%	194%
Bamberg	1	0.04%	7	0.35%	600%
Barnwell	12	0.28%	22	0.61%	83%
Beaufort	171	0.75%	384	1.58%	125%
Berkeley	124	0.39%	555	1.45%	348%
Calhoun	105	1.17%	12	0.63%	- 89%
Charleston	267	0.61%	1,013	1.84%	279%
Cherokee	27	0.30%	68	0.87%	152%
Chester	12	0.23%	36	0.74%	200%
Chesterfield	13	0.17%	30	0.43%	131%
Clarendon	10	0.17%	12	0.22%	20%
Colleton	12	0.19%	47	0.91%	292%
Darlington	31	0.28%	62	0.59%	100%
Dillon	16	0.26%	26	0.46%	63%
Dorchester	160	0.57%	433	1.56%	171%
Edgefield	5	0.13%	21	0.62%	320%
Fairfield	0	0.00%	16	0.61%	Undefined
Florence	59	0.23%	150	0.66%	154%
Georgetown	37	0.38%	83	0.97%	124%
Greenville	979	1.21%	2,485	2.74%	154%

County	2013/2014 School Year		2020/2021 School Year		
	#	%	#	%	% Change*
Greenwood	56	0.47%	99	0.85%	77%
Hampton	3	0.09%	4	0.15%	33%
Horry	263	0.61%	776	1.69%	195%
Jasper	3	0.08%	18	0.46%	500%
Kershaw	18	0.17%	95	0.87%	428%
Lancaster	41	0.34%	178	1.26%	334%
Laurens	33	0.36%	77	0.93%	133%
Lee	3	0.12%	4	0.20%	33%
Lexington	375	0.68%	803	1.39%	114%
Marion	1	0.02%	9	0.20%	800%
Marlboro	2	0.05%	8	0.21%	300%
McCormick	1	0.12%	1	0.14%	0%
Newberry	13	0.22%	40	0.69%	208%
Oconee	89	0.84%	182	1.80%	104%
Orangeburg	22	0.15%	35	0.27%	59%
Pickens	101	0.61%	291	1.86%	188%
Richland	448	0.71%	857	1.41%	91%
Saluda	4	0.17%	25	1.01%	525%
Spartanburg	557	1.16%	1,735	3.39%	211%
Sumter	27	0.15%	64	0.38%	137%
Union	8	0.19%	15	0.39%	88%
Williamsburg	2	0.04%	7	0.20%	250%
York	375	0.91%	998	2.01%	166%
Statewide	4,761	0.62%	12,577	1.60%	164%

* Percent change between number of children with religious exemptions from the 2013-2014 school year to the 2020-2021 school year.

Source: South Carolina Department of Health and Environmental Control, 2020

Epidemiologic studies have identified an inverse relationship between nonmedical exemption rates and immunity rates for debilitating diseases such as pertussis and measles.^{73,74} In Western North Carolina, rising numbers of religious exemptions contributed to an increasing burden of varicella and pertussis in March 2021.⁷⁵ In 2019, 1,249 measles cases were reported in the U.S., the highest annual number since 1992. Eighty-nine percent of measles patients were unvaccinated or had an unknown vaccination status. Eighty-six percent of cases were associated with outbreaks in underimmunized, close-knit communities.⁷⁶

Special Exemptions

Certificates of Special Exemption can only be issued once and are valid for 30 calendar days.⁷⁷ Special exemptions are offered in uncommon situations to ensure equal access to public education. At issuance, the caregiver is expected to be in the process of obtaining a valid South Carolina Certificate of Immunization, a South Carolina Certificate of Medical Exemption or a South Carolina Certificate of Religious Exemption.⁷⁸ Homeless, migrant and unaccompanied youth are offered special provisions in all states, including vaccine exemptions, under the federal McKinney-Vento Act.⁷⁹

Legislation

The earliest vaccination laws in the United States date back to the arrival of the smallpox vaccine. Boston, Massachusetts, was the first U.S. city to require smallpox vaccination for school attendance in 1827.⁸⁰ Due to the effectiveness of the law and vaccine, other vaccine requirements followed suit and by the 1970's states with policies requiring vaccination for enrollment reported measles incidence rates up to 51% lower than states without laws enforcing compliance.⁸¹ Due to high vaccination rates and success in eradicating preventable diseases, such as smallpox, communicable diseases have declined significantly since the early to mid-1900s.

The Journal of the History of Medicine and Allied Sciences published the following description of smallpox vaccination in early American history, which illustrates the consequences of a collective disregard for vaccines and the promise of vaccine requirements in epidemic mitigation:

Smallpox . . . was the great scourge of the American colonies until the introduction of inoculation or variolation, and the subsequent discovery of vaccination in 1796 relegated it to minor importance among the great epidemic diseases. As memories of the horrifying outbreaks of smallpox gradually faded, and a generation appeared which had had little contact with its victims, vaccination was neglected, and the incidence of smallpox began to rise. Beginning in the 1830s its attacks gradually intensified, and by the time of the Civil War the disorder was once again a serious problem.

By chance, the rise of smallpox coincided with the enactment of compulsory school attendance laws and the subsequent rapid growth in the number of public schools. Since the bringing together of large numbers of children clearly facilitated the spread of smallpox, and since vaccination provided a relatively safe preventive, it was natural that compulsory school attendance laws should lead to a movement for compulsory vaccination.⁸²

Federal Legislation and Supreme Court Cases

Although states are largely autonomous in selecting vaccine requirements and exemptions, there are several federal court cases which have been influential in framing these policies. Many of these laws are predicated on the deference to “police power” under the Tenth Amendment, which was defined in the 1824 case *Gibbons v. Ogden* as “that immense mass of legislation [including] inspection laws, quarantine laws and health laws of every description.”⁸³ Police powers allow the state to interrupt further transmission of a contagious disease through reasonable restrictions. Although *Gibbons v. Ogden* was primarily concerned with interstate commerce, it created the foundation for the constitutionality of public health measures revisited in subsequent court cases that have been at times perceived to encumber individual liberties.⁸⁴

The most well-known of these subsequent cases was the 1905 U.S. Supreme Court case *Jacobson v. Massachusetts*, which acknowledged the ability to delegate police powers to public health agencies to protect communities from contagious disease. This case established that states are able to regulate individual and business activity to protect public health and safety insofar as the regulations meet the following standards: necessity, reasonable means, proportionality and harm avoidance.⁸⁵ Justice Harlan asserted that, in the absence of medical contraindications, it is legal to require vaccination. However, if a person has reasonable evidence that they would be harmed by vaccination, they may be omitted from those requirements, which provides the basis for medical exemptions for children who are not able to be safely vaccinated prior to matriculation.⁸⁶

The United States Supreme Court decision *Jacobson v. Massachusetts* raised the question of the power of state governments to protect the public’s health in regard to the Constitution’s protection of personal liberty. In the ruling, the Supreme Court upheld the Massachusetts Board of Health’s authority to require vaccination against smallpox during a smallpox epidemic.⁸⁷ The Court justified the ruling in two ways: 1) restricting individual liberty “under the pressure of great dangers” to the “safety of the general public” is justified and 2) vaccination is not arbitrary or oppressive in nature. Justice Harlan, in his ruling, recognized that vaccination law had a “real or substantial relation” to the goal of controlling an epidemic, in this case, smallpox.⁸⁸

Nearly twenty years after Justice Harlan’s ruling in *Jacobson v. Massachusetts*, the Supreme Court ruled in *Zucht v. King* that school vaccination requirements are constitutional and that it is within a school system’s authority to refuse admission to a student who has failed to receive the required vaccinations. This case, originating in San Antonio, Texas in 1922, was brought to the court by a family who alleged that barring their daughter from attendance after their refusal to have her vaccinated impeded their personal liberties. Both Texas and the Supreme Court denied that claim, reinforcing the power of the state to require vaccinations for school attendance based on the *Jacobson* ruling.⁸⁹

Another court ruling that solidified states’ power to require vaccines for school attendance was the 1944 case *Prince v. Massachusetts*. In its ruling for *Prince v. Massachusetts*, the United States Supreme Court decided that “[a parent or guardian] cannot claim freedom from compulsory vaccination for the child more than for [themselves] on religious grounds. The right to practice religion freely does not include liberty to expose the community or the child to communicable disease.”⁹⁰ This ruling illustrated the state’s wide range of power for limiting parental freedom and authority in decisions that may negatively affect the child’s welfare.

The same year, the Public Health Service Act (PHSA), which “granted legal authority to the Department of Health and Human services to respond to public health emergencies,” was signed into law.⁹¹

Additionally, the PHSA allowed the Secretary of the Department of Health and Human Services to “make and enforce regulation necessary to prevent the introduction, transmission or spread of communicable diseases.”⁹² Although the PHSA does not directly address mandatory vaccination, it effectively consolidated the laws relating to public health services in the United States.⁹³

Various amendments have been added to the PHSA since its inception. For example, in 2019 the *Vaccinate All Children Act* was reintroduced in the 116th Congress as a proposed amendment which would have required states to eliminate nonmedical exemptions in order to receive the preventative health service grants offered in the original act. Although the bill died in committee on December 31, 2020, it reflects the ongoing political interest in vaccination at the federal level.⁹⁴

State Legislation and Court Cases

Although the latter half of the twentieth century witnessed fewer federal court cases and legislation relating to childhood vaccines, there have been a number of court cases held and legislation introduced at the state level. One of the earliest examples, the 1903 New York court case *Viemeister v. White*, ruled that “the right to attend the public schools of the State is necessarily subject to some restrictions and limitations in the interest of public health.”⁹⁵ Sixty-two years later the Supreme Court of Arkansas ruled that “parents had no legal right to resist on religious grounds the enforcement of a health regulation requiring the vaccination of all children as a prerequisite to attending schools” in the 1965 case of *Wright v. DeWitt School District*.⁹⁶

In the South, Mississippi’s vaccination requirements were developed based on the 1979 Supreme Court of Mississippi case *Brown v. Stone*, which ruled that religious exemptions are unconstitutional in Mississippi.⁹⁷ The court stated that religious exemption from vaccination would violate the Fourteenth Amendment, given that it requires school children to be vaccinated while also exposing them to potential harm from unvaccinated school children.⁹⁸ Since this ruling, Mississippi has only allowed medical exemptions from vaccinations under Mississippi law 41-23-37, which applies to children attending public and private schools but excludes home school programs.⁹⁹

As a result of their strict policies regarding immunization exemptions, 99.5% of Mississippi students enrolled in kindergarten through 12th grade during the 2020-2021 school year were fully immunized.¹⁰⁰ Between 1998 and 2021, at least 30 bills were introduced into Mississippi’s Legislature that proposed allowing nonmedical exemptions to vaccinations, but none were successful.^{101,102,103}



Some states have put measures in place to ensure that obtaining a religious exemption is not easier than having a child immunized by passing legislation that requires parents to clarify in writing how vaccination impedes their children's religious beliefs.¹⁰⁴ For example, in Georgia, a parent or legal guardian who wishes to exempt their child from vaccines on religious grounds must submit a signed affidavit to their school or child care facility by completing the following form:

**AFFIDAVIT OF RELIGIOUS OBJECTION TO IMMUNIZATION**

____ (name of parent or guardian) personally appeared before the undersigned notary public and swore or affirmed as follows:

1. I am the parent or legal guardian of _____ (name of minor child), born on _____ (date of birth).
2. I understand that the Georgia Department of Public Health requires children to obtain vaccinations against the following diseases before being admitted to a child care facility or school: diphtheria; Haemophilus influenzae type B (not required on or after the fifth birthday); hepatitis A; hepatitis B; measles; meningitis; mumps; pertussis (whooping cough); pneumococcal disease (not required on or after the fifth birthday); poliomyelitis; rubella (German measles); tetanus; and varicella (chickenpox).
3. I understand that the Georgia Department of Public Health has determined:
 - a. that the required vaccinations are necessary to prevent the spread of dangerous diseases among the children and people of this State;
 - b. that the required vaccinations are safe;
 - c. that a child who does not receive the required vaccinations is at risk of contracting those diseases; and
 - d. that a child who does not receive the required vaccinations is at risk of spreading these diseases to me, to other children in the child care facility or school, and to other persons.
4. I sincerely affirm that vaccination is contrary to my religious beliefs, and that my objections to vaccination are not based solely on grounds of personal philosophy or inconvenience.
5. I understand that, notwithstanding my religious objections, my child may be excluded from child care facilities or schools during an epidemic or threatened epidemic of any disease preventable by a vaccination required by the Georgia Department of Public Health, and that my child may be required to receive a vaccination in the event that such a disease is in epidemic stages, as provided in Georgia Code Section 31-12-3 and DPH Rule 511-9-1-.03(2)(d).

This ____ day of _____, _____.

Parent or Legal Guardian

Sworn and subscribed before me
this ____ day of _____, _____.

Notary Public
My commission expires _____.

Like Georgia, Nebraska also requires parents to submit an affidavit signed by a legally authorized representative stating that the immunization conflicts with the tenets and practices of a recognized religious denomination of which the student is a member.¹⁰⁵ Other states require parents to review immunization education materials. Oregon requires parents to obtain a vaccine education certificate, which can be obtained from a health care provider or through an online seminar.¹⁰⁶

In 2016, California passed *SB277*, one of the most well-documented examples of legislation that removed nonmedical exemptions in the twenty-first century. The bill was introduced following the 2015 measles outbreak originating at Disneyland in Southern California, with the intention of limiting future outbreaks of vaccine-preventable diseases. Before the bill was signed into law, 70% of children in California lived in counties with immunization rates below the threshold for herd immunity as a result of lenient religious or philosophical exemption policies.¹⁰⁷ The measles outbreak illuminated the implicit danger in dipping below that threshold, and the state responded by eliminating personal belief exemptions and created more stringent requirements for parents who enroll their children conditionally before they are fully vaccinated.¹⁰⁸

Following the passage of *SB277*, childhood immunization rates for children entering kindergarten in California reached a near all-time high.¹⁰⁹ A subsequent empirical analysis of the impact of *SB277* found that “government policies removing nonmedical exemptions can be effective at increasing vaccination coverage.”^{110,111} Since 2018, at least five other states have followed suit and have passed laws to limit nonmedical exemptions, including:

CONNECTICUT

Connecticut House Bill 6423 (2021) removes the religious exemption for vaccine requirements for children in grade 12 or below.¹¹²

COLORADO

Colorado Senate Bill 163 (2020) introduced requirements in the form of an educational module or a standardized nonmedical exemption submission process for parents seeking nonmedical exemptions for their child and establishes the goal that each school will reach a 95% immunization rate.¹¹³

MAINE

Maine House Bill 586 (2019) removed personal and religious belief exemptions for public school immunization requirements, leaving only medical exemptions as an option.¹¹⁴

NEW YORK

New York Senate Bill 2994 (2019) removed the religious exemption for public school immunization requirements and requires that physicians who issue a medical exemption must provide specific justification describing the contraindications preventing the child from receiving vaccination.¹¹⁵

WASHINGTON

Washington House Bill 1638 (2019) removed the personal belief exemption for the MMR vaccine requirement for public schools, private schools and day care centers.¹¹⁶

As of August 2022, Connecticut, Maine, New York, Mississippi, West Virginia and California prohibit all nonmedical exemptions. As of the same date, fifteen states allow philosophical exemptions, and forty-five states, including South Carolina and the District of Columbia, allow religious exemptions.¹¹⁷

South Carolina Legislation

In 1993, the South Carolina General Assembly passed an amendment to South Carolina state law 44-29-180 to increase the number of children who receive timely and proper immunizations, while also allowing exemptions.¹¹⁸ This amendment specified enrollment requirements and acceptable forms of vaccine exemptions in public, parochial and private schools across the state.

In 2018, the state passed a resolution declaring the week of August 13 “Immunization Week” to “increase the population’s awareness of the importance of receiving age-appropriate vaccinations.”¹¹⁹ During the 2021-2022 legislative session in South Carolina, the following bills regarding vaccinations were introduced:

HOUSE BILL 3988 (2021-2022)¹²⁰

On March 2, 2021, members of the South Carolina House of Representatives introduced legislation that would create a “Vaccine Bill of Rights” barring specific entities to mandate vaccination with a focus on COVID-19 vaccinations. The bill was referred to the Committee on Invitations and Memorial Resolutions where it did not receive first reading and died in committee.

HOUSE BILL 3217 (2021-2022)¹²¹

On January 12, 2021, members of the South Carolina House of Representatives introduced legislation that would allow individuals to opt-out of infectious or contagious disease vaccinations for any reason. The bill was referred to the House Committee on Medical, Military, Public and Municipal Affairs, where it received first reading and died in committee.

HOUSE BILL 3511 (2021-2022)¹²²

On January 12, 2021, members of the South Carolina House of Representatives introduced legislation that would provide any vaccination offered by the South Carolina Department of Public Health (DHEC) as a part of a mass immunization project to protect against infectious disease and prevent the spread of a pandemic or contagious disease be purely voluntary. Employers would be prohibited from taking any adverse employment action against individuals who do not receive a vaccination including termination, suspension, involuntary reassignment or demotion. The bill was referred to the House Committee on Medical, Military, Public and Municipal Affairs where it received first reading and died in committee.

SENATE JOINT RESOLUTION 177 (2021-2022)¹²³

On January 12, 2021, the South Carolina Senate passed a joint resolution 33-37 that would make COVID-19 vaccination voluntary and would provide that employers cannot take adverse employment actions against an employee who does not wish to undergo vaccination. An amendment was added in the Senate Medical Affairs Committee that would allow an employer to require the COVID-19 vaccine for employees if they are treating or caring for vulnerable populations. This resolution would not allow DHEC to require quarantine for those who are not vaccinated. The resolution was introduced to the House Committee on Medical, Military, Public and Municipal Affairs, where it received first reading and died in committee.

The proposed bills do not address childhood vaccine requirements for schools and child care facilities. However, HB3511 asserts that, “Any individual who exercises the right not to be vaccinated pursuant to subsection (A) may not be denied any right or privilege of citizenship including... speaking, listening, lecturing, learning, sharing, volunteering, athletically competing or playing... and administering or receiving any health care or any other licensed or professional services.”¹²⁴

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