



Childhood Influenza Vaccination Requirements

Influenza Vaccination in Missouri

During the 2018-2019 flu season, Missouri reported a 50% influenza vaccination rate among all residents. In the Center for Disease Control's 2017-2018 study estimating the influenza vaccination rate among children, 50.8% of children are vaccinated. The study measured vaccination rates of children between 6 months to 17 years of age.¹

These numbers, although low, are on par with the U.S averages. Just 49.2% of Americans received their influenza vaccine in the 2018-2019 flu season.² The U.S. influenza vaccine rate among children was 57.9% in the 2017-2018 flu season year. Across the United States, there was a variation in vaccination rates based on age. Younger children were vaccinated at higher rates. Children between 6 months to four years of age had a 67.8% vaccination rate in the United States during the 2017-2018 flu season. That same season children between the ages of 5-12 years old were vaccinated 59.5% of the time and children between ages 13-17 were vaccinated 47.4%.³

Neighboring states recorded similar influenza vaccination rates among children ages 6 months to 17 years old in the 2017-2018 flu season. Illinois estimated influenza vaccination rates of children to be 54.9%, Oklahoma was 55%. Iowa 58.9%. Arkansas 63.6%, Nebraska 62.9%. and Kansas 53.2%.⁴ Of the neighboring states, Missouri is the lowest.

Current Influenza Vaccination Policies and Exemptions in Schools

The State of Missouri does not require influenza vaccination for school attendance.⁵ The Missouri Department of Health and Senior Services (DHSS) does emphasize the need for school-age children to be regularly vaccinated for the flu recommending that all children get vaccinated for influenza every year during the flu season, by the end of October at the latest, and for children 6 months through 8 years old who receive the influenza vaccination for the first time, "should be given two doses, four weeks apart."^{6,7}

¹ Estimates of Flu Vaccination Coverage among Children. CDC; <https://www.cdc.gov/flu/fluview/coverage-1718estimates-children.htm>

² Cumulative monthly influenza vaccination coverage estimates for persons 6 months and older by state, HHS region, and the United States, National Immunization Survey – Flu (NIS – Flu) and Behavioral Risk Factor Surveillance System (BRFSS), 2018-19 influenza season. CDC; <https://www.cdc.gov/flu/fluview/reportshtml/report1819/report1/index.html>

³ Estimates of Flu Vaccination Coverage among Children. CDC; <https://www.cdc.gov/flu/fluview/coverage-1718estimates-children.htm>

⁴ Estimates of Flu Vaccination Coverage among Children. CDC; <https://www.cdc.gov/flu/fluview/coverage-1718estimates-children.htm>

⁵ "2020-2021 Missouri School Immunization Requirements," Bureau of Immunizations, Missouri Department of Health and Senior Services, last revised November 2019.

⁶ "Immunization Schedules," Bureau of Immunizations, Missouri Department of Health and Senior Services.

⁷ "Influenza," Missouri Department of Health and Senior Services.

For this year, as of May 9, 2020, the latest week of which there is data available, Missouri has seen 113,345 cases of influenza in the entire flu season (starting from the week of October 5, 2019), with the majority of cases in the 0-4 year old range. In the last season, the peak of laboratory-positive flu cases was between Weeks 6 and 10, and the peak of outpatient visits for influenza-like illness was between Weeks 2 and 14 in a bimodal manner.⁸ For the 2018-19 flu season, Missouri had a influenza vaccination coverage rate of 57.0% in children 6 months to 17 years old, lower than the national average of 62.6% and the 16th lowest coverage rate in the nation. Overall, for the country as a whole, influenza vaccination rates were highest for the youngest children (6 months to 4 years old) at 73.4%, with a steady decline as children age (for instance, coverage for children 13 to 17 years old was only 52.2%).⁹

The COVID-19 Context

What makes influenza vaccination for fall and winter 2020 so different this year is the COVID-19 pandemic. As of late October, there were 8.7 million cases and over 225,000 deaths in the United States due to COVID-19.¹⁰ At that same time, there were more than 172,000 cases and 2,800 deaths in Missouri.¹¹ Preventing the spread of influenza will be essential this year, as bad flu outbreaks will stress already-stressed emergency rooms and ICUs at hospitals and having both influenza and COVID-19 could lead to disastrous outcomes for patients.¹² On August 16th, the New York Times noted that health officials in the United States are pushing the importance of the flu vaccine this year because they are “fearing a twindemic”.¹³ Noting the need to prevent influenza in Missouri this year, the following policy proposals are designed to ensure that health departments in Missouri are able to gather better data about influenza vaccination (especially with school-aged children), maximize vaccination rates, and minimize influenza prevalence.

Policy Recommendations

Changes to Requirement and Exemption Policies

In order to ensure that Missouri students are protected from influenza, and by extension, mitigate the burden of infectious respiratory diseases,¹⁴ the state should consider a two-pronged approach: requiring that students receive flu vaccines and then addressing its lenient vaccine exemption process.

Missouri Statute §167.181 currently requires that K-12 students receive eight vaccines, but the list does not include an influenza vaccine.¹⁵ As of 2019, and among the diseases listed in this statute,

⁸“Missouri Weekly Influenza Surveillance Report 2019-2020 Influenza Season, Week 19: May 3, 2020 – May 9, 2020,” DHSS.

⁹“Flu Vaccination Coverage, United States, 2018–19 Influenza Season,” CDC, last updated September 26, 2019.

¹⁰ United States COVID-19 Cases and Deaths by State. CDC; <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html>

¹¹ Ibid.

¹² Hoffman, Jan. Fearing a ‘Twindemic,’ Health Experts Push Urgently for Flu Shots. New York Times, Oct. 12, 2020; <https://www.nytimes.com/2020/08/16/health/coronavirus-flu-vaccine-twindemic.html>

¹³ Ibid.

¹⁴ Singer, Benjamin D. 2020. “COVID-19 and the next Influenza Season.” *Science Advances* 6 (31): eabd0086. <https://doi.org/10.1126/sciadv.abd0086>.

¹⁵ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure.* 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

Missouri’s kindergarten students consistently exceed the national average of vaccinations per capita.¹⁶ It should be noted that these rates account for the fact that kindergarten students may opt-out of the practice due to religious beliefs or via the “personal belief exemption.”^{17,18} However, its K-12 students consistently rank below the national average for influenza inoculations. In the 2018-2019 season, 48 percent of 13-17 year-olds were vaccinated for influenza, whereas 52 percent of their counterparts nationally received them; 52 percent of 5-12 year-olds were immunized, well below the 64 percent national average; and only 60 percent of children between the ages of six months and four years were vaccinated, similarly short of the 73 percent average.¹⁹ It may therefore be assumed that if influenza were added to the list of required inoculations in Statute §167.181, more students would receive it.

Requiring influenza vaccinations among students would not place undue financial or logistical burdens on these children or their families if they are offered the same legal protections and benefits as those for the other eight required inoculations. If unable to pay, children would be “immunized at public expense” by the state Medicaid program, Department of Health and Senior Services, or federal funding.²⁰ The CDC also funds and operates a Vaccines for Children program in Missouri, which offers free vaccines to minors who lack insurance, are underinsured, or are an American Indian or Alaskan Native.²¹ Accessibility would also be ensured by the provision that the inoculation may be carried out by “any duly licensed physician or by someone under his direction,” and Missouri currently hosts nearly 1.5 more licensed physicians per capita than the average American state.^{22,23} Finally, students would be able to continue attending classes so long as they offer proof that the “immunization process is being accomplished.”²⁴ In the case of influenza, this would benefit students under eight years of age that need two doses.²⁵

¹⁶ “SchoolVaxView: 2009-10 through 2018-19 School Year Vaccination Coverage Trend Report.” 2019. Centers for Disease Control and Prevention. November 6, 2019. <https://www.cdc.gov/vaccines/imz-managers/coverage/schoolvaxview/data-reports/coverage-trend/index.html>.

¹⁷ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure*. 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

¹⁸ Diekema, Douglas S. 2014. “Personal Belief Exemptions From School Vaccination Requirements.” *Annual Review of Public Health* 35 (1): 275–92. <https://doi.org/10.1146/annurev-publhealth-032013-182452>.

¹⁹ “FluVaxView: 2010-11 through 2018-19 Influenza Seasons Vaccination Coverage Trend Report.” 2019. Centers for Disease Control and Prevention. November 6, 2019. <https://www.cdc.gov/flu/fluview/reportshtml/trends/index.html>.

²⁰ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure*. 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

²¹ “Vaccines for Children (VFC) Program - Information for Parents.” n.d. Missouri Department of Health and Senior Services. Accessed August 30, 2020. <https://health.mo.gov/living/wellness/immunizations/vfc-parents.php>.

²² *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure*. 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

²³ Young, Aaron, Humayun J. Chaudhry, Xiaomei Pei, Katie Arnhart, Michael Dugan, and Scott A. Steingard. 2019. “FSMB Census of Licensed Physicians in the United States, 2018.” *Journal of Medical Regulation* 105 (2): 7–23. <https://doi.org/10.30770/2572-1852-105.2.7>.

²⁴ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure*. 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

²⁵ “Key Facts About Seasonal Flu Vaccine.” 2020. Centers for Disease Control and Prevention. August 17, 2020. <https://www.cdc.gov/flu/prevent/keyfacts.htm>.

Two of the three legal routes for obtaining vaccine exemptions in Missouri -- citing religious or “personal” beliefs^{26,27} -- pose a major threat to herd immunity from influenza,²⁸ and therefore create an additional, preventable challenge for Missouri’s healthcare system during the COVID-19 pandemic. Kansas City has one of the highest concentrations of non-medically exempted kindergarten students among the country’s metropolitan areas,²⁹ making this a natural point of intervention to ensure that more children are inoculated for influenza.

Making the non-medical exemption process more stringent or banning it entirely could therefore protect students, their families, and their communities, as well as support its already-strained healthcare infrastructure.^{30,31,32,33} Studies have shown that the more administratively simple it is to be granted a vaccine exemption for non-medical reasons, the more people get them.³⁴ In Missouri, this process merely requires that a guardian “objects in writing to [the student’s] school administrator.”³⁵ In fact, requesting a medical exemption is more administratively taxing than receiving the vaccine; written statements must be supplemented by a “statement from a duly licensed physician” attesting to their ineligibility.^{36,37}

To disincentivize adults from seeking non-legitimate exemptions, Missouri policymakers should consider requiring that requests be submitted annually, be complemented by an “informed refusal process” for guardians, or include the signature of a religious leader or healthcare professional to verify that the guardian is both well-informed and strictly adheres to relevant religious beliefs.³⁸ New legislation could also draw from the efforts of other states. In Texas and Massachusetts, for example, schools are allowed to exclude unvaccinated students “in times of emergency or

²⁶ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure.* 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

²⁷ Diekema, Douglas S. 2014. “Personal Belief Exemptions From School Vaccination Requirements.” *Annual Review of Public Health* 35 (1): 275–92. <https://doi.org/10.1146/annurev-publhealth-032013-182452>.

²⁸ Omer, Saad B. 2018. “Why Small Groups of Vaccine Refusers Can Make Large Groups of People Sick.” *Washington Post*, November 29, 2018. <https://www.washingtonpost.com/outlook/2018/11/29/why-small-groups-vaccine-refusers-can-make-large-groups-people-sick/>.

²⁹ Devitt, Michael. 2018. “Study Finds Disturbing Trends in Vaccination Exemptions.” *American Academy of Family Physicians*. June 20, 2018. <https://www.aafp.org/news/health-of-the-public/20180620vaccineexempts.html>.

³⁰ “Protect Your Health This Season.” 2020. Centers for Disease Control and Prevention. August 18, 2020. <https://www.cdc.gov/flu/season/protect-your-health.html>.

³¹ Smith, Alex. 2020. “Coronavirus Surges Hit Missouri’s Rural Counties But Experts Say They Still Aren’t Ready.” *KCUR 89.3 - NPR in Kansas City*. August 12, 2020. <https://www.kcur.org/health/2020-08-12/coronavirus-surges-hit-missouris-rural-counties-but-experts-say-they-still-arent-ready>.

³² Erickson, Kurt. 2020. “As Missouri’s COVID-19 Testing Ramps up, Companies Struggle to Pump out Timely Results.” *Saint Louis Post*. July 9, 2020. https://www.stltoday.com/news/local/govt-and-politics/as-missouri-s-covid-19-testing-ramps-up-companies-struggle-to-pump-out-timely-results/article_f784cf0a-e224-5217-bcd0-b778e9ee6971.html.

³³ Morre, Katie, and Matthew Kelly. 2020. “Missouri Got Millions to Fight COVID-19, but 50 Health Agencies Haven’t Seen a Penny.” *The Kansas City Star*. August 2, 2020. <https://www.kansascity.com/news/coronavirus/article244568372.html>.

³⁴ Diekema, Douglas S. 2014. “Personal Belief Exemptions From School Vaccination Requirements.” *Annual Review of Public Health* 35 (1): 275–92. <https://doi.org/10.1146/annurev-publhealth-032013-182452>.

³⁵ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure.* 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

³⁶ *Immunization of Pupils against Certain Diseases Compulsory — Exceptions — Records — to Be at Public Expense, When — Fluoride Treatments Administered, When — Rulemaking Authority, Procedure.* 2001. Vol. 167.181. <https://revisor.mo.gov/main/OneSection.aspx?section=167.181&bid=8326>.

³⁷ *Immunizations of Children Required, When, Exceptions — Duties of Administrator, Report — Notification of Parents, When.* 2018. Vol. 210.003. <https://revisor.mo.gov/main/OneSection.aspx?section=210.003&bid=35611>.

³⁸ Yang, Y. Tony, and Ross D. Silverman. 2015. “Legislative Prescriptions for Controlling Nonmedical Vaccine Exemptions.” *JAMA* 313 (3): 247–48. <https://doi.org/10.1001/jama.2014.16286>.

epidemic” and “disease outbreaks” respectively.^{39,40} Washington’s Statute §28A.210.090 prohibits religious and philosophical beliefs from exempting students from three particular vaccines, and also requires that students who no longer meet the criteria for medical exemptions be inoculated.⁴¹ Barring state-wide mandates, “political subdivision[s]” are also legally allowed to mandate that preschool students “adop[t] more stringent rules” for immunization, such as the addition of influenza vaccines.⁴² In sum, by adding the influenza vaccine to the list of mandatory inoculations for students in Missouri Statute §167.181, and then imposing additional, reasonable barriers to non-medical exemptions, the state would likely witness higher rates of influenza vaccination among students.

³⁹ *Immunization Requirements in Texas Elementary and Secondary Schools and Institutions of Higher Education*. 2016. Vol. 41 TexReg 5422.

[https://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=25&pt=1&ch=97&rl=62](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=25&pt=1&ch=97&rl=62).

⁴⁰ “Immunization Exemptions and Vaccine-Preventable Disease Exclusion in School Settings.” 2019. Massachusetts Department of PublicHealth. August 2019. <https://www.mass.gov/doc/vaccine-preventable-disease-exclusion-guidelines-in-school-settings/download>.

⁴¹ *Immunization Program — Exemptions*. 2011. RCW 28A.210.090. <https://apps.leg.wa.gov/RCW/default.aspx?cite=28A.210.090>.

⁴² *Immunizations of Children Required, When, Exceptions — Duties of Administrator, Report — Notification of Parents, When*. 2018. Vol. 210.003. <https://revisor.mo.gov/main/OneSection.aspx?section=210.003&bid=35611>.