



## SHOW ME Facts:

Mothers who answered why they delayed immunization

52.2%

Delayed vaccines because they believe too many shots are given in a row

39.9%

Delayed vaccines because they believe some shots are given too early

38.9%

Delayed vaccines because they believe some shots do more harm than good

23.6%

Delayed vaccines because they do not trust the science behind them

14.7%

Delayed vaccines because they believe they cause autism

9.3%

Delayed vaccines because they did not have enough money to pay for them

In the time before vaccinations, children were frequently at risk for becoming dangerously sick from diseases like mumps, rotavirus, and pertussis, being permanently crippled from diseases like polio, and dying from smallpox. With vaccines, smallpox has been eradicated, children are seldom afflicted with polio, and other serious ailments are increasingly rare.<sup>1</sup> For example, measles is a leading source of child mortality in the world, causing 550,100 deaths in 2000. With increased vaccination, that number dropped to 89,780 in 2016.<sup>2</sup>

For vaccines to be as effective as possible, the majority of a population needs to be vaccinated. This is because vaccines work, in part, based on “herd immunity”. If most people are vaccinated, diseases struggle to find a person to infect, and struggle even more to be passed on. When most people have been vaccinated, not only are they protected, but they are also helping to protect people who are unable to be vaccinated for medical reasons or due to age. In 2016, 70.7% of children aged 19-35 months had received the recommended combined 7-vaccine series in the United States.<sup>3</sup>

Vaccines work by safely exposing a person’s immune system to a disease so that their body is able to defend against the actual disease when they encounter it. Concerns that vaccinations, for example, cause autism or overload the child’s immune system, are not supported by medical research, which continues to demonstrate that vaccines are the safest and most effective way to prevent these dangerous childhood diseases.<sup>4</sup> Vaccines are heavily studied before they are implemented, and are constantly watched to make sure they can be safely given to children and adults.

This brief looks at data from the Missouri Child Health Assessment Program Survey (MoCHAPS) for births in 2008-2013 (data from 2009 unavailable). Mothers of two-year-olds were asked to provide information about their child’s vaccinations and shots, as well as answer other questions about their toddler’s health.

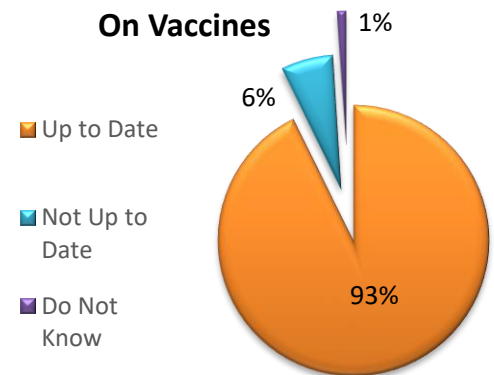
### MISSOURI TODDLERS

Though 93% of two-year-olds in Missouri are up-to-date on their vaccines (Figure 1), roughly 9.5% of mothers reported that they had delayed some vaccinations. Delaying vaccinations is not recommended for most

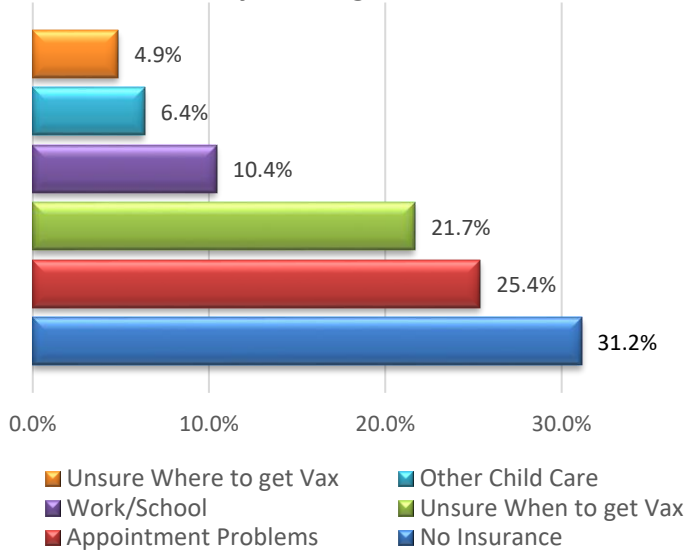
people. Delays leave children vulnerable to potentially life-threatening diseases. The required vaccinations for children in the state of Missouri are: DTaP, polio, Hib, hepatitis B, pneumococcal, MMR and varicella. Vaccination against hepatitis A

and rotavirus are also recommended but not required. The most commonly delayed vaccination was the annual flu shot (2.8%). This was followed by 1.1% of parents who delayed the required measles, mumps, and rubella (MMR), and 1% who chose to delay the required varicella (chicken pox) vaccine.

**Figure 1: Child Is Up To Date On Vaccines**



**Figure 2. Reasons Mothers Reported Difficulty Getting Immunizations**



## BARRIERS TO IMMUNIZATION

As shown in Figure 2, there are a variety of structural, financial and cognitive barriers that may cause immunization delays. Just over 5.1% of mothers reported that health insurance would only partially pay for vaccinations, while 9.9% of mothers reported that insurance would not pay at all. When Missouri mothers take their child for vaccinations, they are most likely to receive them at a private doctor's office (74.8%) or a health department (11.1%).

## RESOURCES

For more information about vaccination, where to obtain vaccines, and information about when vaccines should be administered, please visit:

- ◆ <https://health.mo.gov/living/wellness/immunizations/>
- ◆ <https://www.cdc.gov/vaccines/index.html>
- ◆ <https://www.aap.org>

## MATERNAL CHARACTERISTICS

Mothers who reported that their children were not up to date on vaccines more commonly:

- Lived in rural counties (11.8%) than urban counties (3.6%)
- Had an annual household income below \$50,000 (6.6%) than above \$50,000 (3.4%)
- Held less than a four-year degree (9.1%) than a four-year degree or higher (1.3%)
- Married (8.1%) than Unmarried (3.0%).
- Were Non-Hispanic Black (6.6%) than Non-Hispanic White (6.4%).

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Daniel Quay, M.A. Research Analyst III	Elizabeth McCarthy, M.A. Senior Epidemiology Specialist
Rebecca Lander, Ph.D. Lead Maternal-Child Health Epidemiologist	Venkata Garikapaty, Ph.D. Chief, Office of Epidemiology

## ABOUT MoCHAPS

The Missouri Child Health Assessment Program Survey (MoCHAPS) is a two-year follow-up to the Missouri PRAMS survey funded by the Title V Maternal and Child Health Block Grant. MoCHAPS was developed in 2007 and has since been conducted annually, except for 2009. The objective of the survey is to assess the health of Missouri's toddlers and their quality of life from birth to two years of age. The MoCHAPS survey is sent to mothers drawn from those who completed the Missouri Pregnancy Risk Assessment Monitoring System (PRAMS) survey when their children are two years of age. MoCHAPS collects data through three mailed survey batches, approximately 1,000 surveys each year. For 2010-2013 birth cohorts, the average weighted response rate was 47.25% (N=2,232). MoCHAPS data are weighted to be representative of all Missouri mothers with two-year-old toddlers.

## References:

1. Offit PA, Moser CA. *Vaccines & Your Child: Separating Fact from Fiction*. New York: Columbia University Press; 2011.
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Missouri Child Health Assessment Program Survey (MoCHAPS)

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For More Information Visit: [health.mo.gov/data/mochaps](http://health.mo.gov/data/mochaps)

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