



# Vaccination Perceptions of Urban School Employees

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#### **ABSTRACT**

The purpose of this study was to explore public school employee perceptions regarding vaccinations. Employees from 1 urban school district in Utah responded to the School Employees' Perception of Immunizations Questionnaire. Lack of perceived efficacy was the most common explanation for lack of seasonal influenza vaccine. Being unsure of need was the most common reason participants were unvaccinated for measles, mumps, and rubella. The most common reason for rejecting a mandatory vaccine policy was a perceived violation of personal freedoms. Nurse practitioners can positively influence the health of public school employees by ensuring they are properly vaccinated.

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ew medical advances have had a more positive influence on the health and wellness of humans than vaccinations, which are proven to control the spread of life-threatening communicable diseases in communities. Although childhood vaccination rates in the United States have reached 90%, vaccination rates vary widely. For example, the 2-dose measles, mumps, and rubella (MMR) vaccination rate upon entry to kindergarten was 99.9% in Mississippi and only 85.7% in Colorado. In contrast, adult vaccination coverage in the US remains low for most vaccines and is well below the Healthy People 2020 goals.

Highly virulent vaccine-preventable diseases (VPDs) require high vaccination rates in order to maintain healthy herd immunity. For example, influenza requires 80% of healthy persons and 90% of high-risk patients to be vaccinated each year in order to maintain adequate herd immunity. However, in 2015, only 29.6% of adults aged 18 to 49 years updated their influenza vaccination during the 2015 season. Highly virulent diseases, such as measles, require 95% of the population to be fully vaccinated with the MMR vaccine in order to maintain herd immunity. Despite its importance, 1 of every 12 children in the US does not receive the MMR

vaccine on time. There are no available data regarding adult MMR vaccination rates.

Nurse practitioners (NPs), like all health care providers (HCPs), are in an influential position where they can improve vaccination rates and help facilitate healthy herd immunity in communities. To positively influence vaccination rates, HCPs should routinely assess the vaccination status of all patients to ensure they are up-to-date. Reviewing and updating a child's vaccinations may be easier because children have more frequent health care visits that coincide with the childhood vaccination schedule and must be fully vaccinated before entering public school. In contrast, adult vaccination coverage is suboptimal, perhaps because they visit HCPs less often, are not subject to mandatory vaccination requirements, or work in environments in which vaccination policies are not enforced. When adults see their HCPs, missed opportunities to update necessary vaccinations during the visit are common.7 HCPs should recognize which patients are at risk for developing VPDs and use clinic opportunities to educate adult patients on the importance of vaccinations.

Adult patient education regarding vaccines should include information about environments that contribute to preventable disease outbreaks. The

school is one such environment wherein communicable diseases quickly spread. Schools provide an ideal environment for disease outbreak because of many factors such as confined environments; dense populations; and frequent personal and close contact among students, faculty, and staff.<sup>8</sup> Although vaccination requirements for school-age children are state legislated and regularly evaluated to maintain compliance, 9 very little is known about the vaccination status of adult school employees who are also subject to communicable diseases in the school environment.

Currently, recommendations for verification of vaccination status in adult school employees are determined by individual states. For example, the Utah Department of Health<sup>10</sup> recommends that all Utah school employees show proof of current vaccination records before employment, although this recommendation is not monitored. Therefore, the purposes of this study were to 1) identify the Utah adult school employee self-reported vaccination status for influenza and MMR, 2) explore the influenza and MMR vaccine perceptions of Utah adult school employees, and 3) to identify why Utah adult school employees may be opposed to a vaccination mandate similar to what is already required of schoolage children.

The following research questions were addressed:

- 1. What is the self-reported vaccination status of urban Utah school employees for influenza and MMR?
- 2. What are the perceptions about the seasonal influenza vaccine of urban Utah school employees who are not current on their influenza vaccine?
- 3. What are the perceptions of urban Utah school employees about the MMR vaccine for those who have not received an MMR booster vaccination as an adult?
- 4. What are the reasons for opposing mandated school employee vaccination policies of urban Utah school employees?

#### **METHODS**

#### Sample

A convenience sample of 1,400 public school employees was randomly selected from schools located

in a Utah urban school district in northern Utah. The urban school district is comprised of 59 elementary, 16 junior high, and 8 senior high schools. Participants needed to work part-time or full-time at a school within the district or in the district office. Nonpaid personnel, such as volunteers and classroom aides, were excluded from this study. Although randomly selected as a participatory school, 2 of the elementary school principals declined to have their faculty and staff participate even though the study was approved by the district's assessment, research, and evaluation director. Thus, the sample decreased to 1,259, representing 18 elementary schools, 6 district offices, 4 junior high schools, and 2 senior high schools.

#### Instrument

The School Employees' Perception of Immunizations Questionnaire has been used in previous studies among rural and urban school employees in Utah. <sup>11,12</sup> Face validity of the instrument was established by a team of vaccination, public health, and nursing experts. The original 2-page anonymous questionnaire included 26 questions: 10 yes/no, 7 multiple-choice, 2 open-ended, and 7 demographic questions. <sup>11</sup> This article will report on data from 2 multiple-choice and 2 open-ended questions. The demographic data were previously published <sup>12</sup> but will be included in this article because the information still reflects the demographic characteristics of participants. Responses to all other questions have been previously published. <sup>12</sup>

Multiple-choice questions were used to explore the school employee's perceptions of vaccination. Participants who were not current on seasonal influenza and MMR could select the reason for being undervaccinated by marking options from a *mark all that apply list* for each vaccination. The list included an *other* option to allow participants to write in reasons for not receiving the seasonal influenza or MMR booster vaccinations, respectively.

The first open-ended question allowed public school employees to explain why they would be in opposition to a mandatory vaccination policy similar to the vaccination mandates of school children. The final open-ended question invited participants to write any additional comments regarding vaccines.

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