DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

Ms. Elizabeth Hart
Adelaide, South Australia
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February 11, 2015

Dear Ms. Hart,

Thank you for your letter concerning the measles vaccination recommendation. Secretary Burwell asked that I respond on her behalf.

Measles is a highly-contagious respiratory disease caused by a virus. It spreads through the air through coughing and sneezing. After an infected person leaves a location, the virus remains viable for up to two hours on surfaces and in the air. It spreads so easily that if one person has it, 90 percent of the people close to that person who are not vaccinated or otherwise immune will also become infected. The good news is that since the 1960s, there has been a highly-effective vaccine to prevent measles. Before the U.S. measles vaccination program started in 1963, about three to four million people in the United States got measles each year; 400–500 of them died, 48,000 were hospitalized, and 4,000 developed encephalitis because of measles.

In the United States, the Advisory Committee for Immunization Practices (ACIP) advises the CDC on national vaccine policy for preventing infectious diseases in the civilian population. The ACIP carefully considers many factors when making vaccine recommendations, including data about the burden of disease, safety and efficacy of the vaccine, economic analyses, including cost-effectiveness data, and information about other factors such as how the recommendation can be implemented by the health care system in conjunction with other recommended vaccines. These are recommendations, not mandates. Vaccination requirements have traditionally been within the purview of state authority. In addition, ACIP makes population-based recommendations, and individual clinical care should be discussed with a person's provider.

After the introduction of the 1-dose measles vaccination program in the 1963, the number of reported measles cases decreased during the late 1960s and early 1970s to approximately 22,000–75,000 cases per year. In the 1980's measles outbreaks among school-aged children who had received 1 dose of measles vaccine prompted ACIP in 1989 to recommend that all children receive 2 doses of measles-containing vaccine, preferably the MMR vaccine. The second dose of measles-containing vaccine primarily was intended to induce immunity in the small percentage of persons who did not seroconvert after vaccination with the first dose of vaccine, referred to as primary vaccine failure. Each component of this vaccine is produced in a different way, and has been documented to sometimes have a greater or lesser immune response in the same person. It is not unusual for persons who have antibody tests after MMR vaccination to have detectable antibodies for one or two of the viruses, and not for the other(s). More importantly, it has been demonstrated persons are usually immune to these infections, despite lack of measurable antibody. Therefore, CDC recommends two doses of MMR vaccine for most persons, and no routine testing of antibodies against any of these viruses.

Millions of children have received the MMR vaccine for the prevention of measles, rubella, and mumps since they were licensed and recommended for use in the United States. The MMR vaccine is generally well-tolerated and rarely associated with serious adverse events. The majority of children do not

experience any problems with the vaccine; however, some very minor adverse events can occur. The MMR vaccine sometimes causes localized pain at the administration site, fever, a mild rash, or swelling of the neck or cheek. On very rare occasions, the vaccine's ingredients cause severe (anaphylactic) allergic reactions. In addition, the MMR vaccine has been linked with a very small risk of febrile seizures that happens most often in children between 12-23 months old. Febrile seizures can happen any time a child gets sick and has a fever and most occur in children 14-18 months old. Because the risk of febrile seizures increases as infants get older, it is recommended that children get vaccinated as soon as recommended (12-15 months old for the MMR vaccine). Other rare risks linked with MMR vaccine include joint pain, temporary arthritis, and immune thrombocytopenic purpura (ITP), a disorder that decreases the blood platelet count.

To ensure vaccine safety, CDC continuously monitors vaccines and conducts ongoing assessments of immunization benefits and risks. CDC assesses the safety of all U.S. vaccines licensed and recommended by the Advisory Committee on Immunization Practices (ACIP) for use in children, adolescent, and adults. CDC monitors possible vaccine side effects, conducts studies to determine whether given adverse events are associated with specific vaccines, collaborates with federal and national partners to determine the appropriate public health response to vaccine safety concerns, and communicates the risks of vaccines to the public, media, and health care communities in a clear and transparent manner. CDC's Vaccine Adverse Event Reporting System (VAERS) is an essential component in the federal vaccine safety monitoring systems and is the nation's "early warning" system for identifying adverse events after receipt of childhood, adolescent and adult vaccines licensed for use in the United States. This national spontaneous reporting system is co-administered by the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). VAERS accepts all reports of any adverse events that occur after vaccination from vaccine manufacturers, healthcare providers, vaccine recipients, and others and each report is reviewed and entered into a database for further analysis. VAERS does not distinguish between events that occur after vaccination by coincidence and those that may be caused by vaccination, thus, any potential concerns in VAERS reports are further investigated using other sources of data that can distinguish true vaccine reactions from coincidental unrelated events. CDC is committed to assuring that the vaccines administered in this country are safe and effective. CDC will continue to assess the safety of vaccines administered to children, adolescents and adults in the United States through high quality surveillance and research. Additional information about the safety of MMR vaccine can be found on the CDC website: http://www.cdc.gov/vaccinesafety/Vaccines/MMR/index.html.

Sincerely,

Candice Swartwood
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and Respiratory Diseases
Centers for Disease Control and Prevention