Vaccination Still Wise Despite Domestic Eradication of Rubella

By ACSH Staff — March 30, 2005

According to the Centers for Disease Control and Prevention (CDC), rubella, a virus notorious for causing birth defects, stillbirths, and miscarriages, has been eliminated from the United States [1]. During its last major U.S. outbreak in the mid-60s, there were 12.5 million cases of rubella, resulting in 20,000 cases of congenital rubella syndrome, 11,600 babies born deaf, 11,250 fetal deaths, 2,100 newborn deaths, 3,580 babies born blind, and 1,800 more mentally handicapped. As a direct result of the nation's successful immunization program, incidence was down to only nine cases last year -- none of which originated domestically [2].

The announcement comes as a welcome reminder of the benefits bestowed by vaccines at time when media coverage has audiences wondering if vaccines should be viewed skeptically. Is the announcement reason to celebrate? Indeed. Is it reason enough to forgo your child’s rubella inoculation -- or your own? Absolutely not.

Beginning with the work of Edward Jenner over 200 years ago, vaccines are the cause of decreased the morbidity and mortality rates for fourteen infectious diseases, including smallpox, pertussis, diphtheria, and polio; are a promising candidate for mounting a defense against HIV, the virus that causes AIDS; and may one day be used to target cancer cells. Recently, however, scientifically unsubstantiated media and activist reports about vaccine safety have resulted in parental confusion over how to best protect children's health. On one hand, parents are urged by pediatricians to inoculate their children against the wide range of potentially deadly but vaccine-preventable diseases. On the other, they are buffeted by alarmist reports that the documented rise in the number of autism spectrum disorder diagnoses and other developmental delays could be attributable to the recommended pediatric immunization schedule.

Despite the fact that the large majority of data do not support such a link, media-perpetuated skepticism has led more and more parents to opt out of having their children vaccinated. This dangerous trend is compounded by the fact that -- due to the success of the immunization program -- younger generations of parents don’t remember the widespread suffering caused by diseases such as polio, which often left surviving children confined to wheelchairs, crutches, or iron lungs.

If parents interpret announcements like the one made recently by the CDC as indicators that it is safe to opt out of having their children fully vaccinated -- particularly if they have also been led to believe that in so doing they are protecting their children from becoming autistic -- it is plausible that the U.S. could experience a resurgence of diseases that have been drastically or entirely curbed domestically but are still endemic in other parts of the world. Such is the case with pertussis, more commonly known as whooping cough. Once on the decline in the U.S., the
incidence of this potentially deadly disease has risen steadily in recent decades [3] -- from 1,010 cases in 1976 to 8,296 in 2002 -- primarily as a result of waning immunity in adults, who then transmit the disease to the increasing population of unvaccinated children [4].

For this reason, health officials have reinforced the recommendation that pertussis vaccine be given to all children, and research is being done regarding the risk/benefit ratio of providing boosters to adolescents and adults.

Similarly, because elimination of rubella within the U.S. is not equivalent to total global eradication, as CDC director Julie Gerberding points out, "we are at constant risk for reintroduction of the virus from other parts of the world" (McAlary, VOA News, 3/22). For that reason, she continues, "we cannot afford to relax our emphasis on immunization now." The CDC has stated that children should continue to be immunized against rubella, since global eradication of the virus is "a long way off."

For another example, we need only look at the poliovirus, for which a vaccine was developed by Jonas Salk fifty years ago next month [5]. Even though the disease was declared eliminated in the U.S. in 1979 and in the Western hemisphere in 1991, the polio vaccine is still part of the recommended pediatric vaccines schedule due to its continued existence in other parts of the world, such as Africa, where 1,263 documented cases occurred in 2004 [6]. In this time of frequent and convenient world travel, it is plausible that poliovirus, which in its most devastating form can cause muscle paralysis and death, could be brought back to the U.S. Given the possibility of resurgence, the vaccine will be given until the virus is eradicated globally.

Smallpox, on the other hand, is an example of a vaccine-preventable disease that was not only eliminated from the U.S. but also eradicated worldwide. The last naturally occurring case in the world was in Somalia in 1977, though the virus exists in a few research laboratories. Once routinely administered (just ask people born before 1972 to show you their scars), the smallpox vaccine has not been part of the immunization schedule for over thirty years, as the risk of resurgence is extremely low [7], far lower than that of rubella. Unlike the vaccines mentioned above, smallpox vaccine also has significant risk of adverse effects, a factor that must be taken into careful consideration if smallpox ever sees a resurgence.

To summarize, while we should certainly celebrate the success of the national immunization program in eliminating the domestic incidence of rubella, it and similar successes need to be viewed in context. Given that the risk of contracting rubella still exists and that the risk associated with receiving the vaccine -- as long as one is not pregnant -- is far less, parents should heed the advice of pediatricians and make sure their children continue to be properly immunized.

Aubrey Noelle Stimola is Assistant Director of Public Health at the American Council on Science and Health.

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