Addressing Vaccine Hesitancy

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Last month, the World Health Organization certified India and Southeast Asia as being polio-free, an extraordinary achievement given that the polio vaccine was declared safe and effective only 59 years ago. Vaccines are one of the safest and most cost-effective medical interventions in history. By immunizing infants, children, and teenagers, vaccines protect the entire community. Nevertheless, there is a surge of outbreaks in vaccine-preventable diseases in the United States. What research is needed to reverse this trend?

The crux of the problem is our inability to demonstrate to skeptical parents that vaccinations save lives. On the one hand, the United States has sustained impressive uptake rates for vaccinations overall. During the 2012–2013 school year, the median coverage was about 92% for vaccines against measles-mumps-rubella, diphtheria-tetanus-acellular pertussis, and varicella. Yet over the past 5 years, outbreaks of everything from measles to mumps to pertussis show that there is a growing number of communities with vaccine coverage below the levels needed to maintain herd immunity—when vaccination of a substantial portion of a population protects those who have not developed immunity. Many factors probably contribute to this decline: exposure to a report (that was later retracted) linking the measles vaccine to autism, warnings from ill-informed peers, scare tactics of antivaccine groups, and misinformation by celebrity personalities. Regardless of the source, the results are the same: debilitating infections, hospitalizations, and in tragic cases, death.

This frustrating reality illustrates that the facts do not always speak for themselves. We need only look at Western Europe to see how a few dozen cases of a vaccine-preventable disease can explode into a countrywide epidemic: In 2007, France reported 40 measles cases; in 2011, there were 15,000 cases with 6 deaths. In 2011, the United States experienced its largest number of individual measles cases (222) and outbreaks (17) since 1996. The source of nearly every outbreak was someone who was intentionally unvaccinated—often a U.S. resident traveling abroad or someone of unknown vaccine status. 2013 saw the largest single measles outbreak (58 patients) in the United States in nearly 20 years.

A recent report concluded that current public health communication about vaccines may actually increase misperceptions or reduce vaccination intention, and that attempts to increase concerns about communicable diseases or correct false claims about vaccines may be counterproductive.* Research is needed to develop evidence-based strategies that guide health care providers on how best to communicate the importance of immunization to parents who are uncertain about what to believe. Last fall, an interdisciplinary group of scientists, clinicians, and social scientists convened at the American Academy of Arts and Sciences to discuss priorities in communication research that would provide specific solutions on how to move forward. The group’s conclusion (the report, for which we were co-chairs, has just been released†) was that we need research that addresses how and when attitudes and beliefs about vaccines are formed, how people make decisions about immunization, how best to present information about vaccines to hesitant parents, and how to identify communities at risk of vaccine-preventable disease outbreaks. A study of the 2008 San Diego measles outbreak‡ found that the cost to the public health system of each measles infection was $10,376, whereas the total cost to contain the outbreak was $124,517. If the type of research proposed by the American Academy report helps to prevent even a handful of outbreaks, it will have more than paid for itself.

Strategies to combat antivaccine messages cannot be developed by educated guesswork. Evidence-based approaches that facilitate vaccination are needed if we are to prevent diseases that can easily be avoided and fulfill the potential of modern vaccine research.

* Available at http://pediatrics.aappublications.org/content/early/2014/02/25/peds.2013-2365.

† Public Trust in Vaccines: Defining a Research Agenda is available at www.amacad.org/vaccines.


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