Academy Report Calls for More Research on Parental Decision-Making on Childhood Vaccines

The drumbeat of headlines about the latest measles, mumps, or pertussis (whooping cough) outbreaks offers evidence of a frightening reality: growing numbers of parents are either delaying or selectively administering immunizations—or choosing not to vaccinate their children at all. A new Academy report, *Public Trust in Vaccines: Defining a Research Agenda*, makes clear that reversing this trend requires dedicated research on how vaccine decisions are made and the best ways to communicate factual information to vaccine-hesitant parents.

The report is based on a September 2013 Academy workshop that convened leading researchers, practitioners, and policymakers across a range of disciplines, from anthropology and communications to pediatric medicine and public health. The workshop was chaired by Barry Bloom, former Dean of the Harvard School of Public Health; Edgar Marcuse, Professor Emeritus of Pediatrics at the University of Washington; and Seth Mnookin, Associate Director of the Graduate Program in Science Writing at the Massachusetts Institute of Technology and author of *The Panic Virus: The True Story Behind the Vaccine-Autism Controversy*.

The following excerpt from *Public Trust in Vaccines* delineates priorities for future research that would elucidate how health care providers can best communicate with undecided parents about the individual and community benefits of childhood vaccinations. The full report is available at www.amacad.org/vaccines.

A Proposed Research Agenda

**Central Problem**

Over the past two decades, a combination of fraudulent scientific studies, irresponsible reporting, and well-meaning but misinformed citizen activists has led to a steady increase in the proportion of parents who have concerns about the recommended childhood vaccine schedule. While overall vaccine uptake rates in the United States remain high, these concerns have resulted in a significant expansion in the number of parents who are delaying, and in extreme cases even refusing, vaccines for their children.

These actions have led to outbreaks of vaccine-preventable diseases: The largest domestic measles outbreak of the past 15 years occurred in 2013, and 2011 and 2013 were the two years with the highest number of domestic measles infections since the 1990s. All of the measles outbreaks in 2013 were caused by infections that originated outside of the country—and the overwhelming majority of the secondary infections occurred in deliberately unvaccinated children or infants too young to be vaccinated. The human and economic costs of these outbreaks are worthy of attention; one recent study estimated that the public sector cost of containing a single case of measles is more than $10,000.1

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Answering these questions will require longitudinal studies within individual communities to assess how and when parents arrive at vaccination decisions, how their attitudes and beliefs change over time, and what information sources (e.g., primary care physicians, Internet/television, social media, local social networks, family and friends, etc.) most strongly influence their decisions. These studies should sample prospective parents in young adulthood, expectant parents during pregnancy, parents immediately after the birth of their children, and parents when their children are scheduled to receive recommended vaccines.

2. The Medical Encounter

- How can providers best determine parents’ attitudes about immunization?
- How can providers best respond to parental concerns?
- How can providers best present their science-based vaccine recommendations?
- Could a “checklist” for providers be developed to improve communications with parents?

Researchers should evaluate the effectiveness of communication strategies, including negotiation, used by all clinicians when discussing childhood vaccination with parents. A clearinghouse of vaccination-related interventions and innovations, drawing on data from state and local immunization managers and from other countries, and how these interventions affect uptake of childhood vaccinations, would facilitate such studies.

3. At-Risk Communities

- What are the most effective ways to identify geographic communities at increased risk of vaccine-preventable disease outbreaks?
- Are there common features among these communities?
- Do social networks play a different role in these communities than in communities at lower risk for vaccine-preventable disease outbreaks?
- How does peer-to-peer communication influence vaccine acceptance and uptake?
- In the case of communities or demographic groups that are apt to delay or refuse childhood vaccinations, what types of community-based interventions would have the largest effect on vaccine uptake?

A Call for Action

Childhood vaccination is a cornerstone of a healthy society—an essential bulwark against infections that, though currently in the shadows, inevitably reappear when public health defenses are down. In the United States, overall childhood vaccination coverage is still strong. But recent increases in immunization delay and refusal—and the resulting cases and outbreaks of preventable diseases—are a harbinger of danger.

Reversing this situation will require that public health leaders develop and promote evidence-based actions to increase the optimal use of vaccines. Therefore, it is critical that government agencies and private foundations support and prioritize cross-disciplinary research on immunization decision-making, as well as evaluate the effectiveness of health communication strategies. The research agenda presented here provides a foundation for enhancing both parent-provider and health agency communication. At stake is not only the physical health of the U.S. population, but also our nation’s basic trust in science-based public health recommendations. A modern and well-functioning society can afford no less.