Vaccine Refusal Among Pediatric Travelers

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United States residents make up the second largest group of individuals from any country traveling internationally [1]. Being a “country of immigrants,” many US residents have international family ties. One consequence of these ties is relatively frequent international travel by children, and approximately 5 million international trips are taken by US resident children [2].

International travel is epidemiologically relevant from 2 perspectives: first, it exposes US residents to infectious diseases prevalent in other parts of the world; second, it increases the risk of importation of infectious diseases—including vaccine-preventable diseases. Returning unvaccinated travelers are often responsible for outbreaks in the United States for diseases whose endemic transmission has been eliminated [3–6]. Therefore, it is important for US travelers—particularly children—to receive all recommended vaccines before they embark on their trips.

Routine vaccination has been very effective in controlling many infectious diseases in the United States; however, an increase in refusal and hesitancy to receiving routine childhood vaccines has been documented [7]. Likewise, vaccines for travelers—whether routine vaccines administered to those who have missed previous doses or vaccines recommended for those travelling to a specific country or region—are extremely useful for protecting the travelers and those who come in contact with them. Moreover, pretravel visits provide an opportunity to bring children—who, for whatever reason, have missed doses of routine vaccines—up to date on their vaccination status and when appropriate (eg, providing a second dose of measles-mumps-rubella) accelerate the schedule to assure the child is fully vaccinated before travel.

In this issue of the journal, Hagmann et al [8] report findings from a large multicenter study of individuals to pretravel health clinics. Among other findings, they report that approximately one-third of pediatric travelers refused at least 1 recommended travel-related vaccine. This rate of refusal is concerning. Of interest, rates of refusal were much higher for some vaccines (rabies, Japanese encephalitis, and meningococcal vaccines) than others (typhoid and yellow fever); although, even for the latter category, almost 10% of children for whom those vaccines were indicated were not vaccinated because of parental opposition. Specific reasons for refusal of travel-related pediatric vaccines merit further investigation. For example, one issue that needs further research, in the context of travel-related vaccines, deals with whether parental out-of-pocket costs for the vaccines played any role in the refusals. Whereas out-of-pocket costs are less of a barrier for routine childhood vaccines due to the Vaccines for Children Program and due to the fact that the Affordable Care Act (ACA) will cover the cost of these vaccines, out-of-pocket costs may continue to be an issue for travel-related vaccines because ACA does not cover travel-related vaccines.

Nevertheless, there are likely to be several parallels with addressing vaccine hesitancy for routine childhood vaccination. Formulating strategies to address vaccine refusal in pretravel clinics could benefit from lessons learned from studies of hesitancy of parents to allow their children to receive routinely recommended pediatric vaccines.

The decision to refuse pediatric vaccines and hesitancy about them is influenced by multiple factors. A useful model to understand these decisions has been the health beliefs model, which was initially developed to explain the determinants of polio vaccine uptake [9] and has since been widely used to understand acceptance of many health behaviors. According to this model, factors influencing uptake of a health behavior (eg,
vaccination) include an individual’s perceptions of disease susceptibility, disease severity, vaccine safety, and vaccine efficacy [9]. Although all 4 of these factors have been associated with vaccine acceptance, the strength of association of each factor with vaccine acceptance varies by vaccine.

In the context of travel-related vaccines, perceptions of disease susceptibility are important. Many in the United States are unfamiliar with diseases that have low incidence and prevalence in the Unites States but have a high burden in developing countries. Sharing information about the risk of these diseases in countries where the traveler is going to could be useful. A good resource for information on the risk of various diseases in different parts of the world is the “Yellow Book” available from the Centers for Disease Control and Prevention [10]. Likewise, talking to patients about the consequences of various vaccine-preventable diseases could be useful.

Discussion about vaccines should be specific to the vaccines parents are most concerned about rather than a general litany of the benefits of vaccines, because it has been shown that parents prefer that their specific concerns are addressed [11]. Discussion about vaccine safety, which is often a concern of vaccine-hesitant parents, should involve an honest conversation about what is known and unknown about the safety of various vaccines. Fortunately, recommended vaccines, particularly those recommended for children, are extremely safe. However, information about the adverse events associated with a vaccine should not be withheld. Moreover, while discussing safety, risks associated with nonvaccination should also be a part of the conversation.

Evidence from routine, recommended, pediatric vaccines suggests that, although the use of the internet and social media for health information has increased [12], healthcare providers are the most frequent and most trusted source of vaccine-related information, even for those who refuse vaccines [13]. Moreover, healthcare providers are the most frequent reason for parents, who initially planned to delay or refuse vaccination, to change their mind [14]. Therefore, healthcare providers have a unique opportunity to influence parents’ travel-related vaccine decisions. It is particularly important for providers to give a “strong recommendation” for a particular vaccine rather than “a suggestion.” Otherwise, travelers can be at unnecessary risk for vaccine-preventable diseases and, as the recent measles outbreak in Texas has demonstrated [6], returning travelers can expose others in the community to vaccine-preventable diseases.

References