Free Vaccines for Parents Program: A Novel (and Successful) Pediatric Resident Advocacy Project

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ACADEMIC PEDIATRICS 2015;15:476–479

ADVOCACY EDUCATION IS a key component of pediatric residency training and its importance is emphasized in current Accreditation Council for Graduate Medical Education (ACGME) program requirements.[1,2] Advocacy initiatives identify challenges and disparities that negatively affect child health and often involve parent and provider education to facilitate the development of strategies that improve community health. The multifaceted approach to advocacy training challenges medical educators to develop curricula to teach the skills, attitudes, and knowledge necessary for successful implementation of an advocacy program. Although the important role of pediatric advocacy is highlighted by organizations such as the American Academy of Pediatrics (AAP), educators must create successful models that teach basic advocacy concepts while providing residents with innovative hands-on approaches to advocacy education.

Despite programs to improve childhood vaccination rates, there continue to be important health consequences of vaccine-preventable diseases. Developing innovative approaches to protecting children from vaccine-preventable disease by identifying and vaccinating adult caretakers who may transmit infections to children is one strategy designed to decrease disease burden in children. Cocooning, or vaccinating close contacts of infants and other high-risk children to decrease the child's exposure to vaccine-preventable diseases (particularly influenza and pertussis), is endorsed by the Advisory Committee for Immunization Practices and the AAP.[3–7] With adult immunization rates remaining suboptimal, some children's hospitals have responded by implementing cocooning programs. Guzman-Cottrill et al,[8] in a 2012 survey of US children's hospitals found that 15 of the 53 respondents had free influenza vaccine programs for parents/caregivers, with 6 additional programs providing both influenza and tetanus, diphtheria, and pertussis (Tdap) vaccines.

An additional challenge with immunizing children is the recognition that many parents avoid vaccinations because of vaccine safety concerns and barriers such as cost and access to convenient vaccine administration programs. Developing a program that combines the concept of cocooning with mechanisms to address parental barriers to vaccination could increase adult vaccination rates and protect vulnerable pediatric populations.

In 2011, we established a resident-run Free Vaccines for Parents program as a resident advocacy project that emphasized local ownership and leadership by pediatric trainees. The concept behind our resident-run program was that resident ownership may lead to increased vaccine delivery as a result of several factors: the widespread presence of residents throughout the hospital (increasing campaign visibility), close relationships with students (enhancing volunteer recruitment), and residents' motivation for advocacy promotion as part of their residency education. The primary aim of the program was to increase vaccination rates of adult caregivers. Secondary aims of our program included improving parental education regarding vaccine safety and fostering advocacy skills in our residents. Here we describe the development, implementation, and effect of our program.

ADVOCACY PROJECT IMPLEMENTATION

In 2011, 9 pediatric residents, mentored by 2 pediatric faculty members, spearheaded the development of a parental vaccination program. Residents took ownership of an immunization campaign previously directed by only faculty. The resident roles included volunteer recruitment and training, advertising, supply management (eg, ordering vaccines, organizing supplies), and research. Each year, as more interns were recruited, the veteran residents trained the new residents to ensure smooth transitions as senior residents graduated. A resident how-to manual was created and accessible to all pediatric residents on the residency program shared computer. Resident leaders continually reviewed the success of the program and identified areas of improvement for subsequent years.

This advocacy project was an opportunity to own a project and experience its evolution over time.

VOLUNTEER RECRUITMENT

Given residents' busy schedules, students were trained to be the primary vaccine administrators. However, a resident was always available on call to assist students at the vaccine clinic. Student volunteers were recruited from the School of Medicine, School of Pharmacy, and Physician Assistant program at Oregon Health & Science University (OHSU) via e-mail, word of mouth, and direct contact with specialty interest group leaders. An educational PowerPoint presentation was developed and included a general overview of the program, as well as information about vaccine safety and administration, and frequently asked questions (eg, adverse effects, risk of vaccine-associated disease). All volunteers were required to attend a 1-hour-long training session where they reviewed the presentation and completed specific training on vaccine administration, safe injection practices, and appropriate vaccine documentation.

PARTICIPANT/PARENT RECRUITMENT

Flyers describing the program were posted throughout the children's hospital, the labor and delivery unit, and postpartum units. E-mail communications were sent to pediatric faculty and residents. An informal communication campaign targeted the general pediatrics clinic, the inpatient wards, and the postpartum units. Any parent or caregiver age 18 years or older (regardless of health insurance coverage) was eligible to receive the influenza vaccine. Given the higher cost of the Tdap vaccine (compared to the influenza vaccine), vouchers were required for this vaccine and were distributed to eligible adults in the postpartum and labor and delivery units as well as the general pediatrics clinic (at the newborn, 2-week, and 2-month well-child visits). These visits were chosen in order to target the most vulnerable population for serious complications from pertussis infections. The vouchers were provided at no cost to parents. The voucher system ensured that the program funds were used as efficiently as possible by providing as many (relatively low-cost) influenza vaccines as possible and limiting the more expensive Tdap vaccines to those most at risk. Though there was no specific limit to the number of vouchers dispensed, this system allowed better control of the overall budget of the program.

INFLUENZA AND TDAP VACCINATION PROCEDURE

Vaccine screening forms in English and Spanish were obtained from the state health department immunization program, reviewed, and approved by the OHSU risk management department. After completing the vaccine screening form (including signed consent) and reading the US Centers for Disease Control and Prevention vaccine information sheets, parents/caregivers were vaccinated. The trained student volunteers administered the vaccines in the main lobby of Doernbecher Children's Hospital and maintained proper vaccine administration documentation. Residents then entered relevant data into the Oregon Immunization Alert Database.

PARENTAL EDUCATION

An educational handout with frequently asked vaccine safety questions and a list of reliable online resources was developed and served as a consolidated handout in both our inpatient and outpatient settings. Handouts were available at the vaccine administration table and in the waiting room of the general pediatrics clinic and were distributed to all families regardless of study participation. The ultimate goal was to improve both parental and child vaccination rates, including for vaccines that were not part of our campaign.

PARENT PERSPECTIVES ON VACCINES

During the second year of the campaign, the residents developed a research component that focused on vaccine perceptions in the population of targeted parents. A 5-question parental, forced-choice survey was developed de novo and approved by the OHSU institutional review board. The survey included basic questions such as, "Did you receive a flu shot last year?" and "If not, why not?" It also elicited parental concerns regarding vaccine safety. The survey was designed to identify major parental barriers to vaccination, thus allowing residents to adapt the program to address these concerns and provide specific educational material to parents and caregivers.

RESULTS

During the 2010–2011 influenza season, when the program was faculty run, 262 influenza and 218 Tdap vaccines were administered. In the 3 years since the introduction of our resident-run program, there has been a modest increase in the administration of Tdap vaccines but an almost 6.5-fold increase in influenza vaccine administration compared to the faculty-run campaign (Fig. 1).

Nine hundred twelve parents completed the survey. Four hundred twenty-nine surveyed parents/caregivers (47%) did not report receiving an influenza vaccine the year before, and 432 (49%) would not have received the vaccine without our campaign. Survey participants noted expense and vaccine availability as the primary barriers to obtaining the vaccine (Fig. 2). Even those parents with

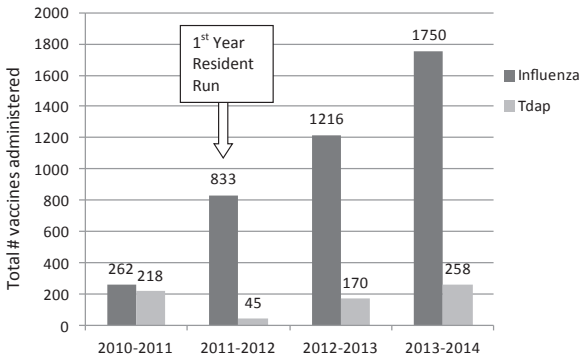

Figure 1. *Total number of vaccines administered per year.*

insurance noted that convenience was a large barrier for them. Approximately 15% of parents/caregivers were concerned about vaccine safety and of these, 45% were concerned about acquiring influenza infection from the vaccine and 27% were worried about allergic reactions. Less commonly cited concerns included the association of vaccines with autism and contamination of vaccines with heavy metals such as mercury.

DISCUSSION

This resident-run parental vaccine advocacy project led to a significant increase in the number of vaccines administered to parents. Understanding and addressing parental barriers to vaccinations was critical to the success of this project. Consistent with other studies, parents whom we surveyed stated that cost and inconvenience as well as uncertainty about vaccine safety were major barriers to vaccinating themselves and their children.[9,10] Thus, providing free vaccines in the centrally located lobby of the Doernbecher Children's Hospital provided easy access to all caregivers and addressed concerns about costs. These core features of the program contributed to the successful implementation of our program, which resulted in a large number of parents/caregivers receiving vaccines. Vaccine safety, another concern of parents/caregivers, was addressed by the development of educational material that reassured many of them about the safety of childhood immunizations.

Compared to the programs described in the literature, our parental vaccine program is novel in that it appears to be the only resident-run campaign.[8] Resident ownership of this campaign contributed to increased vaccine delivery by taking advantage of their presence in our hospital. Residents are present in nearly every patient care area and in specialized areas such as radiology and physical/occupational therapy. This visibility afforded the opportunity to efficiently spread word of the campaign. Residents also have close contact with medical and physician assistant students, which allowed for easier and more successful volunteer recruitment. During the faculty-run campaign, students did not participate and vaccines were provided only intermittently in the pediatric clinic. With resident ownership, a reorganization of the program was accomplished, student volunteers were recruited to increase staffing, and the vaccine clinic was moved to a central location in the lobby of the hospital. Although increased awareness of the campaign may have contributed to increased vaccine delivery, we believe resident leadership as described above led to increased vaccine delivery beyond what can be attributed to program maturation.

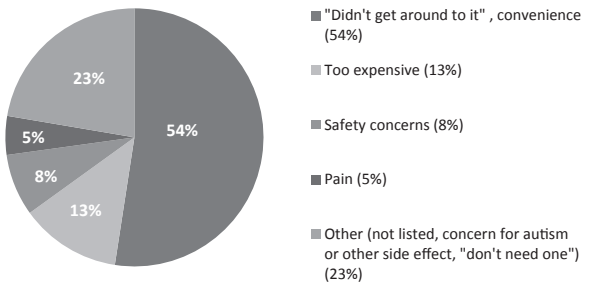

Figure 2. *Reasons parents did not get an influenza vaccine last year.*

Despite the success of our influenza vaccine delivery, our Tdap vaccination rates did not show a significant increase compared to previous years, as the Tdap voucher system regulated and limited the number of Tdap vaccines that could be distributed.

This campaign had multiple benefits. At the community level, we increased vaccination rates of adults and improved awareness of vaccine safety. Protecting children against vaccine-preventable diseases, although not measured in this project, was enhanced by the successful use of cocooning, consistent with the recommendations of the AAP.[4,6] In addition to providing our residents with a large-scale, hands-on advocacy project, the use of medical student volunteers provided these students with an opportunity to understand the important role of vaccines in preventive health care while learning from resident role models about the important role of physician advocacy. Finally, the evolution of this project over 3 years provided our residents with an important educational lesson; the need to constantly evolve, modify, and assess the effect of our work was critical to the successful implementation of a resident advocacy project.

LIMITATIONS

The main limitation of this project is that it was developed in a single children's hospital and utilized local resources to sustain and enhance the success of this project. Although this may affect its generalizability, we hope by sharing the methods of our successful resident-run campaign that our work can be reproduced by other pediatric residency programs. Although our project did not measure disease burden in our community, future work in this area will benefit from measuring the effect on child health by decreasing the incidence of vaccine-preventable disease. However, the dramatic increase in vaccine distribution by our campaign is likely to have affected vaccine-preventable diseases in our community.

CONCLUSIONS

Advocacy projects are an important part of resident education and experience, and the development of this project allowed our residency program to meet the advocacy training requirement emphasized by the ACGME. Understanding and addressing parental concerns and barriers to vaccination was critical to the successful implementation of our project. Converting a Vaccines for Parents campaign into a resident-run program provided our residents with an important advocacy project, which taught us the most important lesson of all: the power of physician advocacy to improve the health of our community.

ACKNOWLEDGMENTS

The authors acknowledge Julie Johnson for her tireless support during our program development and Dr Cindy Ferrell for her review. We thank

the students and residents who volunteered their time to ensure the success of our vaccine program. This program was supported through a grant from the Doernbecher Children's Hospital Foundation, which had no further involvement in the research and publication aside from funding.

REFERENCES

1. ACGME Program Requirements for Graduate Medical Education in Pediatrics. Available at: http://www.acgme.org/acgmeweb/Portals/0/PFAssets/2013-PR-FAQ-PIF/320_pediatrics_07012013.pdf. Accessed August 8, 2015.
2. Ludwig S. Competency 4: advocate for quality patient care and optimal patient care systems. *Acad Pediatr*. 2014;14:S75–S76.
3. Centers for Disease Control and Prevention. Prevention and control of influenza with vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP), 2010. *MMWR Morb Mortal Wkly Rep*. 2010;59:1–62.
4. American Academy of Pediatrics; Committee on Infectious Diseases. Policy statement: recommendations for prevention and control of influenza in children, 2010–2011. *Pediatrics*. 2010;126:816–826.
5. Centers for Disease Control and Prevention. Preventing tetanus, diphtheria, and pertussis among adults: use of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine. *MMWR Morb Mortal Wkly Rep*. 2006;55(RR-17):1–33.
6. American Academy of Pediatrics; Committee on Infectious Diseases. Policy statement: prevention of pertussis among adolescents: recommendations for use of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine. *Pediatrics*. 2006;117:965–978.
7. Committee on Practice and Ambulatory Medicine and the Committee on Infectious Diseases. Technical report: immunizing parents and other close family contacts in the pediatric office setting. *Pediatrics*. 2012;129:247–253.
8. Guzman-Cottrill JA, Phillipi CA, Dolan SA, et al. Free vaccine programs to cocoon high-risk infants and children against influenza and pertussis. *Am J Infect Control*. 2012;40:872–876.
9. Flood EM, Rousculp MD, Ryan KJ, et al. Parents' decision-making regarding vaccinating their children against influenza: a Web-based survey. *Clin Ther*. 2010;32:1448–1467.
10. Allison MA, Reyes M, Young P, et al. Parental attitudes about influenza immunization and school-based immunization for school-aged children. *Pediatr Infect Dis J*. 2010;29:751–755.