Health Service Applications

School Nurses Identify Barriers and Solutions to Implementing a School-Based Hepatitis B Immunization Program

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By 1996, the Advisory Committee on Immunization Practices (ACIP), American Academy of Pediatrics, American Academy of Family Physicians, and American Medical Association all formally recommended that children aged 11-12 be vaccinated against hepatitis B. These recommendations represented an effort to "catch-up" all children who missed universal neonatal vaccination recommended by the ACIP in 1991.[1] The rate of hepatitis B infections decreased by 50% since 1987 due, in part, to programs focusing on young adolescents.[2] As of 2000, a total of 24 states had instituted hepatitis B as a requirement for entry into middle school.[3] These new requirements increased the need for immunization services for middle school children.

STATE-LEVEL INITIATIVES

This need has been addressed by an increase in the number of school-based immunization programs. In San Francisco, during the 1992-1993 and 1993-1994 school years, two middle schools achieved consent/refusal form return rates of 91% and 94%, respectively. The schools used a variety of techniques including lessons in science class, extra credit points, class parties, and prizes (pencils, erasers, and folders) to motivate students to return consent forms.[4] Immunization completion rates in these schools were 91% and 94%.[4]

Another successful hepatitis B school immunization program occurred in Baton Rouge, La.[5] During the 1992-1993 school year, this program primarily used incentives for return of consent forms, but also employed public service announcements on local radio stations and a T-shirt design contest to promote the program. Consent forms were delivered by mail rather than directly to students' homes. The form return rate was 79% overall, and the immunization completion rate was 65%.[5]

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In 1997, New Mexico implemented a large-scale campaign to promote hepatitis B immunization initiatives. This state sought to provide immunizations to students in schools, and used three different models to administer the shots.[6] All the approaches used the school registration process to provide one-on-one interaction with parents. This approach was helpful in recruiting parent volunteers and getting parents to sign consent forms. In New Mexico, rewards or positive incentives were not as effective in motivating students to return consent forms as was the threat of a grade of zero for that class day if a consent form was not returned.[6] These approaches produced participation rates from 60% to 79% and immunization completion rates from 89% to 94%.[6]

As part of a school-based immunization program conducted in Houston, Texas, during the 1998-1999 school year, impressions were sought directly from the nurses about factors that facilitated and hindered implementing this program.

THE TEXAS INITIATIVE

Fifth graders in 63 Houston (Texas) Independent School District schools, and two Aldine (Texas) Independent School District schools in a metropolitan area, received hepatitis B vaccination at clinics held during school hours. Distribution of the schools was citywide with no concentration of schools in any particular area of the city. Schools eligible to enroll in the immunization program were chosen based on two criteria from the 1997-1999 district profile manual in the following order of importance: 1) high percentage of students enrolled in the school district's free and/or reduced-price lunch program, and 2) high percentage of students considered at risk academically as defined by the Texas Education Agency responsible for identifying at-risk students.[8] These criteria served as indicators of lower socioeconomic status and a greater need for school-based health programs.

Among the selected schools, the percentage of students enrolled in the school district's free and/or reduced-price lunch program ranged from 74% to 98%. The percentage of students in each school considered at risk academically, as defined by the Texas Education Agency responsible for identifying at-risk students, reported a range of 8% to 91%. Total enrollment for all 65 elementary schools in the immunization program was 7,288 students.

Prior to the beginning of the school year, each school nurse was invited to attend an orientation session given by program staff. The session explained and defined program procedures and protocols. Nurses received an educational video to show to students explaining the detrimental effects of hepatitis B infection and the benefits of immunization. School nurses were responsible for distributing parent packets containing vaccination consent and refusal forms and program information to students. Students were asked to return a consent or refusal form either directly to the school nurse or to their homeroom teacher.

The school nurse collected forms returned to the teachers. Students who returned a consent form with a parent's signature indicating permission were eligible to be immunized with the standard three-dose regimen and tracked through four clinics during the 1998-1999 school year. Per state policy, a separate consent form was required for each of the three hepatitis B immunization doses. Nurses were instructed to use all available resources to facilitate return of consent forms, including additional videos, worksheets, science and health lessons, reminder visits to classrooms, general assemblies, and incentives such as stickers or pencils. During vaccination clinics, project staff collected consent and refusal forms from the school nurse and administered vaccinations with signed parental consent forms.

Students often withdraw from school or transfer to a neighboring school during the school year. For this reason, consent/refusal packets were offered to students prior to each clinic regardless of their immunization status or whether they responded to the first clinic. Students who did not respond to the first clinic were allowed to begin the vaccination series at any of the clinics offered during the school year. Clinics were scheduled to coincide with a 0, 1, and 4-month dosing schedule for hepatitis B vaccine. "Make-up clinics" (fourth clinics) also were scheduled at each school to accommodate students who missed a dose due to absence or late entry into the program.

For students meeting criteria for the state program Vaccine for Children (VFC), vaccine was provided. Students participating who did not meet these criteria were provided vaccine by donations from SmithKline Beecham.

SURVEY PLANNING

Participants in the survey were school nurses working in each of the 65 schools participating in the program. They are employees of the school district and work under the supervision of their school principals and the health and medical department of the school district.

Each school nurse received a questionnaire at the end of project year 1 from the school district's health and medical department. Nurses were asked to return the questionnaire to the same department. HISD health and medical then returned all questionnaires to immunization program personnel.

The questionnaire included 13 questions evaluating implementation and efficiency of the program and program staff. Specifically, nurses were asked to list in open-ended format all problems encountered during the program. Similarly, nurses then were asked to offer solutions to these problems or improvements to the program. Responses were evaluated and grouped into categories according to subject. Only categories that contained three or more responses from the nurses were reported.

SURVEY RESULTS

All responses were tabulated and reported as percentages. Fifty-eight of 65 nurses responded to the questionnaire for a return rate of 89%. Forty-five of 58 (78%) nurses who responded reported at least one problem or difficulty during the immunization program. Parental consent was the most commonly cited problem. Of 45 nurses who listed at least one problem, 26 (58%) reported parental consent as a barrier to immunization against hepatitis B. Nine of 45 nurses (20%) listed the consent issue as their only difficulty. The more specific problem of obtaining a separate consent prior to each vaccination was cited directly by 7 of 45 (16%) school nurses who listed at least one problem with the program.

Nurses noted other obstacles including lack of student cooperation (7 of 45, 16%), difficulty in obtaining record of previous vaccinations (6 of 45, 13%), lack of administrative support from teachers and/or principals (3 of 45, 7%), lack of parental understanding regarding the importance of immunizations (3 of 45, 7%), and scheduling difficulties (3 of 45, 7%).

Solutions were offered by 39 of the 58 (67%) respondents. Eight of 39 (21%) suggested further education about immunization for parents, teachers, and students. Seven nurses (18%) noted that use of one consent for all three doses of hepatitis B vaccine would improve outcomes of the program. Use of incentives to motivate return of consent forms was listed by 22 (38%) nurses.

SURVEY IMPLICATIONS

Obtaining parental consent for hepatitis B immunization emerged as the most commonly cited obstacle to immunization according to the nurses who helped implement the hepatitis B immunization program. Successful immunization programs reported use of incentives to promote form returns. In this program, 22 nurses reported using some of these same methods. Incentives included pizza parties, pencils, stickers, and coupons. Yet, 11- and 12-year-old children often failed to deliver and return forms from home to school. Similarly, parents may not remember to complete the forms once they receive them.

The form return problem was compounded by the fact that a separate consent form was required prior to each injection of hepatitis B vaccine. In other environments where vaccinations are given, such as clinics or private physicians' offices, parents are present to complete paperwork including consent for procedures and medications. Because hepatitis B is a sexually transmitted disease, parental consent is not required in most medical settings for administration of this vaccine.[8] However, in a school-based clinic, children must have parental consent and serve as couriers of these consent forms.

In Texas, legislation states, "Any minor may consent to immunizations to prevent a disease that may be transmitted through sexual contact (eg, hepatitis B)." If a special situation exists where the vaccination occurs at

school, the state health department does not require a parent to be present at the immunization, but does require written authorization to be on file.[9] Other studies involving school immunization programs have not specified their consent procedures. However, state law in Texas is "silent" with regard to the requirement for a separate parental consent for each injection in the school setting. The decision to use three consent forms is left to the supervising body of the immunization program. In this case, the Texas Department of Health could not authorize use of one consent form for a vaccine that requires multiple doses of vaccine (personal communication, R.D. Crider, Director, Immunization Division, Texas Department of Health.)

Given that Texas holds the distinction of ranking among states with the lowest immunization rates (65%) in the United States,[7] this policy and similar policies across the country should be re-examined so school immunization programs can be used effectively by parents and students. While other factors influence program success, nurses in this study ranked consent as most influential regarding participation rates in this immunization initiative held in economically disadvantaged schools.

CONCLUSION

The nurses' responses may have been limited by the design of the questionnaire. The nurses were asked to identify the school in which they worked. Therefore, the survey was not completely anonymous. The relationship between the nurses and the program could be described as congenial and cooperative; it is possible that this relationship might have discouraged nurses from criticizing the program. Despite these potential limitations, the issue of consent emerged as an important issue.

The consent process should not interfere with or hinder protection of children and adolescents against hepatitis B infection. Nurses in this immunization program expressed the feeling that participation rates could have been enhanced had one consent form been required for the hepatitis B immunization series with perhaps the option to withdraw consent with a separate written form. By simplifying the consent procedures, children participating in a school-based immunization program may benefit more fully. These data warrant further study on the effects of the consent process on rates of completion in school immunization programs, especially in states with low overall immunization rates. ■

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Call for Nominations, Outstanding School Nurse Achievement Award

The Bayer Consumer Care Division and the School Nurse Section of the American School Health Association will present the 19th annual **Outstanding School Nurse Achievement Award** at the 2002 ASHA National School Health Conference in Charlotte, NC, October 2 - 5, 2002. **Nominations must be mailed (no faxes) and be postmarked by June 1, 2002.** From the nominations, the School Nurse Section's Awards Committee will select the recipient based on the following criteria:

- demonstration of professional competence and expertise which results in significant contribution to school nursing.
- demonstration of leadership in school nursing.
- active involvement in a professional organization that emphasizes school nursing.
- demonstration of involvement with community health care providers in supporting and promoting school health programs.
- 5 years of full-time experience in school nursing.
- an ASHA member

Nominations should include a resume consisting of personal information, academic training, employment background, professional experiences, professional association activities, honors, and publications. The resume should not exceed four pages.

Nominations also must include five letters of recommendation. Send nominations to: **Betty J. Holton, 9542 Pheasantwood Trail, Dayton, OH 45458; bhgam@msn.com (email).**