

Earlier Is Better for Vaccine Delivery in Teens

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Adolescent immunization strategies should target youth in early to middle adolescence because primary health care visits decline substantially as adolescents age into their late teens, an analysis of adolescent health care utilization has shown.

To further optimize compliance with new adolescent immunization recommendations, all health care clinicians who provide preventive or acute care to this population should be trained to take advantage of every opportunity to provide immunizations, suggested Dr. Cynthia M. Rand of the University of Rochester (N.Y.) and her colleagues.

More than one-third of the overall health care visits by late-adolescent females (18-21 years) included in the analysis were to ob.gyns. As such, "education of obstetrician/gynecologists in the delivery of these vaccines [to older adolescents

who missed the earlier vaccinations] is important," they said.

The availability of newly licensed adolescent vaccines, including those for meningococcal conjugate, pertussis booster, and human papillomavirus (HPV), "heightens the

need to rethink adolescent vaccination delivery in the context of comprehensive preventive care," the authors wrote (*Arch. Pediatr. Adolesc. Med.* 2007;161:252-9).

To understand current patterns of adolescent health care visits and vaccinations, the investigators analyzed health care utilization data for 63,529 adolescents included in the 1994-2003 National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey. The types of health care professionals seen for all visits and for preventive visits were considered, as were the types of visits at which vaccination occurred. The variables were evaluated by adolescent stage (early, 11-14 years; middle, 15-17 years; and late, 18-21 years) and sex.

A review of the outpatient visits by age and sex showed a similar volume of visits in early adolescent boys and girls (3.7 million and 3.3 million for 11-year-olds, respectively) but substantially more visits among late adolescent girls than among boys (5 million and 1.8 million for 21-year-olds, respectively). There was an inverse relationship between health care visits and age among boys overall, with a sharp decline after the age of 16, while visits among girls increased in late adolescence, according to the authors.

When considering outpatient visits by physician type, 40% of outpatient visits for adolescents up to age 14 were to pediatricians, whereas older adolescent boys had more outpatient visits to family practice

physicians (29%) than to pediatricians (7%), and older adolescent girls had more visits to ob.gyns. (36%). Internists in private offices provided a small number of adolescent visits, but they increased with age: 4% of early and 7% of late adolescent girls and 3% of early and 10% of late adolescent boys, Dr. Rand and her associates wrote.

Given this finding, it is incumbent on professional organizations such as the American Academy of Pediatrics, the American Academy of Family Physicians,

and the American College of Obstetricians and Gynecologists to provide "intensive, specialty-specific outreach and communication with their members to maximize delivery of new vaccines to their adolescent patients, particularly those populations that remain traditionally under-immunized," the authors emphasized.

With respect to preventive care visits specifically, only 9% of all the adolescent visits considered were for preventive care, and early adolescents had three times as

many such visits—primarily to pediatricians—than did late adolescents. "Preventive visits made by males declined somewhat after the age of 13 years and again more substantially after the age of 17 years," according to the authors. Similarly, "preventive visits made by females declined moderately after the age of 14 years and declined further after the age of 17 years," they said. For early adolescent boys and girls, preventive visits composed 13% of all visits; in late adolescence, girls had

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References: 1. Centers for Disease Control and Prevention (CDC). Notice to readers: final 2005 reports of notifiable diseases. *MMWR*. 2006;55(32):880-890. 2. Gustafsson L, Hallander HO, Olin P, Reizenstein E, Storsaeter J. A controlled trial of a two-component acellular, a five-component acellular, and a whole-cell pertussis vaccine. *N Engl J Med*. 1996;334:349-355. 3. Gustafsson L, Hallander H, Olin P, Reizenstein E, Storsaeter J. Efficacy trial of acellular pertussis vaccines: technical report trial I with results of preplanned analysis of safety, efficacy and immunogenicity. Stockholm, Sweden: Swedish Institute for Infectious Disease Control; 1995. Contract N01-AI-15125. 4. WHO meeting on case definition of pertussis: Geneva, 10-11 January 1991; Geneva, Switzerland: World Health Organization, 1991:4-5. Issue MIM/EPI/PERT/91.1.

a greater proportion of visits, but only 3% were preventive, compared with 6% in teen boys.

This finding indicates that, to best deliver vaccines to adolescents within current health care visit patterns, vaccination before late adolescence is optimal, both because there are more preventive visits before the age of 15 years and because the visits tend to be to traditional immunization providers, such as pediatricians and family practice physicians, Dr. Rand and her associates wrote.

The data on immunization-related visits showed that adolescents generally received vaccinations during preventive vis-

its, which is a concern with respect to vaccination-delivery strategies. "Preventive visits make up only a small percentage of outpatient visits by adolescents and occur less frequently among older adolescents, suggesting that vaccines targeted to late adolescents may be unlikely to reach most teens if vaccination remains coupled to preventive care," according to the authors.

The study findings highlight the need for more robust strategies for increasing preventive care visits among adolescent patients. "Ensuring that adolescents receive annual preventive visits should be a priority of primary care physicians," Dr. Rand and her associates stressed, noting

that incorporating strategies such as patient reminder or recall to increase preventive visits and vaccinations is particularly important for this age group.

The practice of vaccinating at acute care visits also should be extended to adolescents "to take advantage of every opportunity to provide immunizations," noted the authors.

This is especially relevant when considering vaccinations that are delivered in a series. For example, "the human papillomavirus vaccination will require multiple follow-up visits to complete the series, heightening the need to use all visits as vaccination opportunities," they said. ■

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