CE IN THE MORNINGS

Preventable Diseases 2010:
Implementing Health-System Strategies for Adult Immunization

ASHP *Advantage* E-Newsletter March 2010

The Pharmacist's Role in Improving Influenza and Pneumococcal Vaccination Rates

A continuing education (CE) activity entitled *Preventable Diseases 2010: Implementing Health-System Strategies for Adult Immunization* was conducted as one of four CE in the Mornings topics in early December 2009 at the 44th ASHP Midyear Clinical Meeting and Exhibition in Las Vegas, Nevada. Michael D. Hogue, Pharm.D., FAPhA, Director, Experiential Programs, and Associate Professor of Pharmacy Practice, McWhorter School of Pharmacy, Samford University, Birmingham, Alabama, discussed these strategies. Attendees submitted questions about unresolved issues and controversies and emerging research in the management of immunization programs in health systems and vaccine-preventable diseases in adults that were later addressed by Dr. Hogue in a live webinar conducted on February 16, 2010. The highlights of this webinar are described in this and another e-newsletter to be released in April.

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Pharmacists can play an important role in dispelling misconceptions in lay persons and health care workers about vaccine efficacy and safety and in improving vaccination rates. Influenza and pneumococcal vaccines might be considered "low-hanging fruit" to target first in efforts to improve vaccination rates.

Influenza

Influenza vaccination rates historically have been low among lay persons and health care workers alike (Table 1), and the 2009-2010 influenza season probably is no exception.[1,2] As the new decade dawned, pharmacists often heard friends, family members, and even pharmacist colleagues who had not received the seasonal or 2009 H1N1 influenza vaccines eschew vaccination for various misguided reasons. Many people mistakenly consider vaccination unnecessary and unhelpful because they already experienced influenza-like illness or believe that influenza vaccines are not beneficial after December. Some health care workers have misconceptions about their risk for influenza, mistakenly believing that exposure to ill patients confers immunity.

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Table 1. Seasonal Influenza Vaccination Rates[1-3]

- Adults 18-64 years of age with high-risk conditions: 38.8%
- Pregnant women: 24.2%
- Adult household contacts of persons at high risk, including children < 5 years of age: 19.5%
- Elderly persons ≥ 65 years of age: 66.3%
- Adults 50-64 years of age: 38.4%
- Health care workers: 36% to 42%

There was a steady decrease in influenza activity in the United States during the early weeks of 2010. As of the week ending January 30, 2010, 99% of influenza cases reported to the Centers for Disease Control and Prevention (CDC) for which subtype test results were available were caused by H1N1.[4] Thus, most patients who had influenza confirmed by positive rapid test results probably were infected by the H1N1 strain, although these people cannot be sure which type of influenza caused their illness without subtype testing. The safety record for both the 2009 H1N1 and seasonal influenza vaccines is good, so the risk for harm from vaccination is extremely low.[5]

When the H1N1 vaccine first became available in Fall 2009, supplies were limited and access was restricted to high-risk patient populations. Production and supplies of the H1N1 vaccine increased later in the Fall to such an extent that the vaccine was made available to the entire population (i.e., distribution was not limited to high-risk patient populations) in most states by the end of 2009 or early 2010. The 2009 H1N1 vaccine should continue to be administered until existing vaccine supplies are exhausted or the vaccine expires (June 30, 2010 for most products).

The peak month of influenza activity historically has been February, but cases have been reported in March, April, and May.[6] A second peak in influenza activity could occur this Spring before the 2009-2010 season ends.

In late February 2010, the World Health Organization and the U.S. Food and Drug Administration (FDA) recommended H1N1 virus for inclusion in the 2010-2011 seasonal influenza vaccine (the same vaccine virus as was used in the 2009 H1N1 monovalent vaccine). Barring an unforeseen circumstance, this Fall, separate administration of seasonal and H1N1 vaccines will not be needed for most Americans.

Also in late February 2010, the CDC Advisory Committee on Immunization Practices (ACIP) adopted a universal influenza immunization recommendation, expanding annual influenza vaccination to include all people 6 months of age or older.[7] The new recommendation seeks to remove barriers to influenza immunization and signals the importance of preventing influenza across our entire population.

Pharmacists should serve as advocates for influenza vaccination. Tools and strategies for promoting influenza vaccination among health care workers are available online at ASHP's Stop the Flu: It Starts with You! resource center (www.YouCanStopTheFlu.com).

With the ACIP's recommendation for universal immunization, the populations listed in Table 1 with the lowest seasonal influenza vaccination rates might be targeted by educational campaigns to improve vaccination awareness, although all patients 6 months of age or older should be encouraged to obtain

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the vaccine. Institutional protocols, policies, and procedures might be developed to increase vaccination rates. For example, the ACIP recommends that all women who will be pregnant during the influenza season should be vaccinated.[3] It may be necessary to dispel misconceptions among health care workers and pregnant women that vaccination is indicated only during the second and third trimesters. Protocols might be established to screen influenza vaccine status and administer the vaccine to unvaccinated women at the time of discharge from the labor and delivery unit. It also would be prudent to vaccinate household contacts of newborn infants to minimize the risk of transmission of the virus to the infant. Influenza vaccination is recommended by the ACIP for household contacts and caregivers of children less than 5 years of age, especially infants less than 6 months old.[3] Influenza vaccines have not been licensed by the FDA for use in infants less than 6 months of age. Parents, grandparents, and daycare providers who come in contact with infants less than 6 months of age could be targeted by influenza vaccination campaigns.

Both trivalent inactivated vaccine (TIV) for intramuscular injection and live attenuated influenza vaccine (LAIV) for intranasal administration are available.[8] The available TIV products vary in the age groups for which they are indicated. Some but not all TIV products may be administered to infants as young as 6 months of age. Therefore, pharmacies may need to stock multiple TIV products to meet the needs of the patient populations that they serve.

The LAIV product is approved for use only in healthy patients 2-49 years of age. Its safety has not been established in persons with underlying medical conditions that increase the risk for influenza complications.[8] The LAIV product should be administered only by a properly trained health care worker; self-administration of the LAIV product is not recommended.

> "Annual influenza vaccination is now recommended for all patients 6 months of age or older. However, certain populations, such as health care workers, pregnant women, and household contacts of newborn infants, can be targeted by educational campaigns to increase awareness of the need for vaccination."
>
> —Michael D. Hogue, Pharm.D., FAPhA

Pneumococcal Disease

Streptococcus pneumoniae (S. pneumoniae) community-acquired pneumonia is a leading cause of illness and death during seasonal influenza pandemics and a common complication in serious and fatal 2009 H1N1 influenza cases.[9] A 23-valent pneumococcal polysaccharide vaccine is given to adults and children more than 2 years of age, and a 7-valent pneumococcal conjugate vaccine has been used for children less than 5 years of age (Table 2).

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Table 2. Pneumococcal Vaccine Products and Indications[9-11]

- 23-valent pneumococcal polysaccharide vaccine
  - All elderly persons ≥ 65 yr
  - Children and adults 2-64 yr at increased risk for pneumococcal disease
    - Chronic cardiovascular or pulmonary disease
    - Diabetes mellitus
    - Alcoholism or chronic liver disease (including cirrhosis)
    - Cerebrospinal fluid leaks, cochlear implant
    - Functional or anatomic asplenia
    - Immunocompromising conditions or medications
    - Residents of nursing homes or long-term care facilities
  - Adults 19-64 yr who smoke cigarettes or have asthma
- 7-valent pneumococcal conjugate vaccine[a]
  - Routinely used in all children < 5 yr

[a]To be replaced by a recently approved 13-valent pneumococcal conjugate vaccine

Approximately 70 million Americans who are eligible for vaccination against pneumococcal disease are unvaccinated, including 30 million people who are eligible because they smoke cigarettes.[9] Adults 19-64 years of age who smoke cigarettes recently were added to the patient populations for whom pneumococcal vaccination is recommended by ACIP.[9]

Pneumococcal vaccines are safe for administration at the same time as seasonal and 2009 H1N1 influenza vaccines. A common misconception among patients receiving the pneumococcal vaccine is that it protects against all types of pneumonia, so it is important to inform patients that the vaccine provides protection against only certain types of pneumonia caused by *S. pneumoniae.*

Questions sometimes arise about the need for pneumococcal revaccination in adults. According to the ACIP, revaccination with a second dose is recommended 5 years after initial vaccination for (1) patients who are more than 65 years of age who received their first dose of vaccine before the age of 65 years and (2) patients 2-64 years of age who have chronic illnesses.[10] Revaccination after a second dose is not routinely recommended.[10]

A new 13-valent pneumococcal conjugate vaccine recently was approved by FDA.[11] This product replaces the 7-valent pneumococcal conjugate vaccine and protects against invasive pneumococcal disease caused by a larger number of strains than the 7-valent vaccine. The new vaccine is given as a four-dose series at 2 months, 4 months, 6 months, and 12-15 months of age. Pharmacists can advise parents, pediatricians, and other health care practitioners about the schedule for administration of the new vaccine and clarify any confusion about vaccine products.

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Medicare Coverage

Medicare beneficiaries are eligible to receive an annual influenza vaccine (coverage was provided for the separate H1N1 vaccine and seasonal vaccine in 2009, but the strains will be combined and given as one vaccine dose for which coverage is provided in 2010). Medicare beneficiaries also are eligible to receive at least one dose of the pneumococcal vaccine. Coverage is provided for a second dose of pneumococcal vaccine if the patient has a condition associated with a high risk for pneumococcal disease (e.g., functional or anatomic asplenia, chronic renal failure, cancer). No copayment is required for the influenza or pneumococcal vaccines. Hospitals can bill Medicare part B for these vaccinations even for patients whose hospital care is billed through Medicare part A. Billing for vaccinations through Medicare part B represents an opportunity to establish a unique revenue stream in health systems. Health-system pharmacists should educate billing personnel about Centers for Medicare & Medicaid Services reimbursement policies for vaccination through Medicare part B as part of efforts to improve influenza and pneumococcal vaccination rates at the time of discharge from health systems (Table 3).

Table 3. Health-System Pharmacist Strategies for Improving Influenza and Pneumococcal Vaccination Rates in Adults[12]

- Ensure that the vaccines are included in the formulary and sufficient quantities are kept in stock
- Screen patients for vaccination status as part of discharge planning
- Develop standing orders for vaccination of patients with indications for vaccination (e.g., chronic illness)
- Educate billing personnel about Centers for Medicare & Medicaid Services reimbursement policies for vaccination through Medicare part B

Web-based CE Activity

If you missed the CE activity “Preventable Diseases 2010: Implementing Health-System Strategies for Adult Immunization” at the 2009 ASHP Midyear Clinical Meeting and Exhibition and want to learn more about this topic, a web-based activity based on the presentation is available. One hour (0.1 CEUs) of continuing pharmacy education credit is offered. To access this activity and obtain more information on this topic and other learning activities in the CE in the Mornings 2010 Educational Initiative, go to www.ashpadvantage.com/cemornings.

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