

# Influenza vaccines and nurses

# Find out how to improve influenza vaccination rates among healthcare workers.

## By Lyndy Beckley, RN, MSN

**IT'S THAT TIME** of year again. Children are back in school, leaves are changing, the air is chilly, and signs of flu season are all around sniffling, coughing, and brightly colored flyers posted throughout the workplace reminding you it's time to get vaccinated.

What's your first reaction when you see those flyers? More than a few nurses cringe. And many nurses continue to decline the influenza vaccine, even though the Centers for Disease Control and Prevention (CDC) recommends it for all healthcare workers. The CDC estimates that the influenza vaccine prevented about 966,000 medical visits and 67,000 hospitalizations during the 2014-2015 flu season. However, healthcare workers, who are most frequently exposed to the influenza virus, had only a 77.3% vaccination rate for the 2014-2015 influenza season, short of the 90% goal.

To improve vaccination rates among nurses and other healthcare staff, we need to understand why they aren't getting vaccinated and develop strategies to overcome barriers.

## **Barriers**

The influenza vaccine can decrease the number of missed days of school or work and reduce influenza-related *(continued on page 48)* 



# Influenza virus and vaccine: Fast facts

This primer on the influenza virus and vaccine can be used to encourage nurses and other healthcare workers to get their annual vaccination.

#### What is influenza?

Influenza is a contagious respiratory illness caused by different strains of influenza viruses. It can cause mild to severe illness resulting in hospitalization or death.

#### What are the signs and symptoms?

Not everyone experiences the same symptoms when infected with the influenza virus. Symptoms include cough, sore throat, runny or stuffy nose, muscle and body aches, headache, and fatigue or malaise. Other possible symptoms include fever, chills, vomiting, and diarrhea.

#### How does the influenza virus spread?

Influenza viruses spread when an infected person coughs, sneezes, or talks and expels droplets that land in the mouths or noses of nearby people or on surfaces that are then touched by others. The virus can be spread from person to person beginning 1 day before symptoms develop and up to 7 days after becoming sick, potentially longer.

#### What are complications of influenza?

Potential complications of an influenza virus infection include pneumonia, ear and sinus infections, dehydration, and worsening of chronic medical conditions, which can lead to hospitalization and death.

#### What types of vaccines are available?

Each year researchers attempt to determine the strains of the influenza virus that will be most common during that season. They then translate this data into the vaccines, including two influenza A vaccines (an H1N1 and an H3N2) and one or two influenza B vaccines that will provide the best protection against influenza for the season.

Trivalent vaccines Prevent against two influenza A strains and one influenza B strain	<b>Quadrivalent vaccines</b> Prevent against two influenza A strains and two influenza B strains
<ul> <li>Single-dose trivalent vaccine</li> <li>Many types available</li> <li>Grown in eggs</li> <li>Most brands approved for ages 6 months through 64 years old</li> </ul>	<ul> <li>Single-dose quadrivalent vaccine</li> <li>Many types available</li> <li>Grown in eggs</li> <li>Most brands approved for anyone over 6 months old</li> </ul>
<ul><li>High-dose trivalent vaccine</li><li>Grown in eggs</li><li>Specifically for ages 65 and older</li></ul>	<ul> <li>Intradermal quadrivalent vaccine</li> <li>Injected into skin instead of muscle</li> <li>Uses smaller needle</li> </ul>
<ul><li>Trivalent vaccine grown in cell culture</li><li>Grown in animal cells</li><li>Approved for ages 18 and older</li></ul>	Quadrivalent nasal spray*           • Live virus           • Not intended for anyone with weakened immune system,
<ul> <li>Recombinant egg-free trivalent vaccine</li> <li>Currently only one brand approved by the Food &amp; Drug Administration for use in the United States</li> <li>Does not use the influenza virus or chicken eggs in its manufacturing process</li> <li>Approved for ages 18 and older</li> </ul>	<ul> <li>pregnant women, or anyone with asthma and other chronic conditions</li> <li>Grown in eggs</li> <li>Approved for use from ages 2 through 49</li> <li>*Not recommended by Centers for Disease Control and Prevention (CDC) in 2016-17 season.</li> </ul>

#### What are contraindications and precautions for vaccination?

Any person who's had a previous reaction to any component of influenza vaccine, including gelatin or other ingredients, should consult a provider to discuss options. Guidance for people with a history of egg allergy can be found on page 30 of the publication *Prevention and Control of Seasonal Influenza with Vaccines Recommendations of the Advisory Committee on Immunization Practices — United States, 2016–17 Influenza Season,* available at cdc.gov/mmwr/volumes/65/rr/pdfs/rr6505.pdf.

#### Who should or shouldn't get vaccinated?

Anyone 6 months or older should receive an influenza vaccination annually. However, not every type of influenza vaccination is intended for everyone. Anyone younger than 6 months, anyone who has experienced a severe, life-threating allergy to any component of an influenza vaccine, and some people with a history of Guillain-Barre syndrome shouldn't receive an influenza vaccination.

#### Can someone get sick from an influenza vaccination?

A person can't get influenza from the vaccine because viruses used in these vaccines have been inactivated and aren't infectious, and some vaccines contain no influenza viruses at all. However, an individual may experience side effects of the vaccine, including soreness at the injection site, muscle pain, generalized discomfort or weakness, and fever. These effects usually last only 1 or 2 days and should not be mistaken for an actual influenza infection.

According to the CDC, people may become ill even after receiving a vaccination if they're exposed to the influenza virus shortly before or in the 2 weeks immediately after receiving a vaccination (before the vaccine can provide immunity), if they're infected with a strain of the virus that wasn't included in the seasonal vaccine, or if they don't develop an adequate level of immunity after vaccination. Other non-influenza illnesses, such as rhinovirus, can mimic flu symptoms.

illnesses, visits to healthcare providers, and hospitalizations. But if flu shots are so helpful, why do nurses hesitate to get them? We may be able to answer that question by exploring vaccination barriers, including inconvenience and cost, previous negative experiences, personal and religious beliefs, and health concerns.

#### Inconvenience and cost

Healthcare employers aren't required to supply vaccines to their staff, and some may not even take steps to remind and encourage personnel to get a flu shot. According to a 2014 study conducted by AHC Media, just over half of surveyed healthcare workers who work in extended-care facilities reported that their employer required or recommended a seasonal influenza vaccination.

Hours and location of administration also affect vaccination rates. In the same study, only 27% of nurses surveyed reported that their employers offered vaccinations onsite. Many of the employers that did offer vaccinations did so only during "business hours," leaving few options for off-shift employees.

The cost of getting a vaccine may deter some healthcare workers. Depending on insurance coverage, a vaccine may cost \$60 or more if a provider visit is required.

### Previous negative experiences

Healthcare workers who've had a negative personal or professional experience with vaccines may be reluctant to get vaccinated. More than half of unvaccinated healthcare workers surveyed by Heinrich-Morrison and colleagues expressed a negative opinion about the influenza vaccine, believing it to be ineffective or that it makes them unwell. Other sources report that some healthcare workers insisted they "got the flu" as a result of the vaccine and others feared potential side effects.

**Personal and religious beliefs** Individual principle may stop some

# Additional resources

These resources from the American Nurses Association (ANA) offer more information you can put to use in implementing strategies to increase nurse and other healthcare worker influenza vaccination rates.

ANA Immunize website:

nursingworld.org/MainMenuCategories/WorkplaceSafety/Healthy-Work-Environment/ANA-Immunize

Immunizations: ANA position statement: nursingworld.org/MainMenuCategories/WorkplaceSafety/Healthy-Work-Environment/ANA-Immunize/Policy-Advocacy/Immunizations.html

healthcare workers from getting vaccinated. Some may feel that injecting certain foreign substances into the body is wrong based on their religious beliefs. Many healthcare workers whose personal or religious beliefs prevent vaccination rely on antidiscrimination laws to protect them when they refuse an annual flu shot.

### Health concerns

Nurses with egg allergies or those who've had a previous reaction to a flu shot component may decline the vaccine. For others, pregnancy or immune deficiencies may give rise to concerns.

# Strategies for improvement

Understanding what prevents healthcare workers from getting an annual influenza vaccination provides opportunities to develop strategies to break through those barriers. Increasing access to vaccines, decreasing employee cost, and providing education may help improve vaccination rates.

Increase access and decrease cost In an attempt to vaccinate the highest percentage of healthcare workers, employers should consider offering no-cost vaccinations at all locations, during all shifts, and over the course of several days. According to AHC Media, employee vaccination rates increase significantly when a facility offers free on-site vaccinations for more than one day.

# Offer education

Providing education about influen-

za vaccine effectiveness, side effects, and options may increase vaccination rates. (See Influenza virus and vaccine: Fast facts.) For example, when an employee believes that the vaccine will cause an active influenza infection. explain that although someone might feel ill from vaccine side effects. the vaccine can't transmit the illness. If an employee declines a vaccine because of an egg allergy or previous reaction, make sure he or she knows about alternative vaccines, such as the recombinant egg-free vaccine that can be safely administered to adults. For those who dislike needles and traditional injections. let them know about jet injectors. These needleless, highpressure devices are used to introduce a trivalent influenza vaccine into the skin. And let staff know that an influenza vaccine is generally recommended even for those who are pregnant or immunocompromised.

# Open dialogue and incentives

Because unvaccinated healthcare personnel pose an increased risk of spreading influenza to patients and other staff members, which contributes to patient morbidity and mortality as well as increased costs to the facility, many organizations no longer permit personal or religious belief exemptions. In fact, these exemptions may soon become obsolete. In 2016, California enacted legislation to repeal laws that allow these exceptions, and a North Carolina court upheld the termination of an employee who cited religious grounds for refusing an influenza vaccine.

These ongoing changes require an open dialogue between employers and employees. Many employees simply want to be heard and have their beliefs considered. Employers should ask healthcare personnel about their concerns so they can address specific issues and develop strategies for improving vaccination rates. To facilitate this process, employers can offer counseling during vaccine administration times.

And rather than making influenza vaccines mandatory, some organizations have successfully implemented incentive programs. One large community-based healthcare system that offered incentives increased vaccination rates among all employees to 93%.

# **Protect staff and patients**

The influenza vaccine is the best

way to protect against seasonal influenza viruses and accompanying complications. Breaking down the barriers to vaccination through education, open dialogue, and incentives can increase vaccination rates and protect staff and patients throughout the flu season.

Lyndy Beckley is an intensive care staff nurse at Union Hospital in Dover, Ohio, and a critical care nursing instructor at Kent State University, Stark Campus, in North Canton, Ohio.

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