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AALNA Section

Leveraging immunizations and your team to improve vaccination rates

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"The return on investment in global health is tremendous, and the biggest bang for the buck comes from vaccines. Vaccines are among the most successful and cost-effective health investments in history."—Dr. Seth Berkley

Today we are in the midst of the COVID-19 pandemic, but we need to consider another very important virus, the influenza virus. This is especially important now that it is anticipated that both the novel coronavirus responsible for COVID-19 and the influenza virus will be circulating at the same time during the 2020-2021 flu season.

At the time of this writing, over 2.5 million Americans have been confirmed with COVID-19 and there have been over 130,000 deaths. Many of these deaths occurred in persons over age 65, but certainly younger people, even children, have been affected by serious complications of this disease. Persons with other medical conditions such as diabetes, heart disease, asthma, or COPD are more vulnerable. People who are overweight or smoke are also at greater risk.

According to the World Health Organization, the flu causes up to 5 million cases of severe illness worldwide and kills up to 650,000 people every year. Influenza and its complications kill an average of 36,000 Americans each year. In the 2018-2018 flu season, influenza killed about 80,000 Americans. So you can understand why Dr. Fauci, the Director of the National Institute of Allergy and Infectious Diseases, and Dr. Redfield, the Director of the CDC, are especially concerned about the devastating effects that both influenza and COVID-19 could have in the next flu season.

So. . .what can we do to protect ourselves, our families, our fellow associates, and our residents. **The single most important thing you can do is get immunized. Get the flu shot!**

Most of us have heard common myths about the flu, but it is important for us as health professionals to know the facts so that we can address and overcome these issues with residents, families, and staff in our assisted living communities. What is a myth? A myth is a widely held, but false belief or idea. Here are 10 common myths about influenza:

1. You can catch the flu from the vaccine;
2. Healthy people don't need the flu shot;
3. Getting the flu vaccination is all you need to do to protect yourself;
4. The flu is just a bad cold;
5. You can't spread the flu if you're feeling well;
6. You don't need to get a flu shot every year;
7. You can catch the flu from going out in cold weather without a coat;
8. Feed a cold, starve a fever;
9. Chicken soup will speed your recovery from the flu;
10. Antibiotics will treat the flu.

Now let's address the facts. Influenza is caused by viruses, not bacteria, so antibiotics have no role in the treatment. Influenza is contagious for 1 day before and up to five days after onset of symptoms. Each year 5-20% of the population gets the flu, and more than 200,000 are hospitalized. Approximately 36,000 die from flu-related causes each year, but some years have had many more deaths. More than 90% of the deaths are in persons over 65 years of age. This is a major reason why it is important for staff working in senior living to get immunized, as it is the level of staff immunization that predicts the risk of an outbreak in a senior living community. Other persons at high risk include very young children, pregnant women, and persons with chronic medical conditions such as diabetes, asthma, COPD and heart disease.

The symptoms of flu and COVID-19 are very similar and require testing to determine the difference. The CDC has now developed a test that can identify COVID-19 as well as influenza A and B viruses. Flu symptoms include: Fever (usually high), headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. Stomach symptoms, such as nausea, vomiting, and diarrhea can occur but are more common in children than adults. COVID-19 symptoms include all of these, but may also include shortness of breath, loss of taste or smell, and pink eye.

Complications of influenza include: bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions. Recent research has demonstrated that influenza is also related to a higher risk of myocardial infarction (MI) and stroke. Certain inflammatory markers, such as interleukin-6, tumor necrosis factor alpha, and C-reactive protein increase with age-

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related chronic diseases and with infectious diseases, including influenza. This leads to a hypercoagulable state that makes thrombosis more likely.

Two studies link influenza infection specifically to risk of an acute cardiovascular event. Kwong and colleagues[1] showed that the risk of a myocardial infarction was 6-fold higher in the week following the flu. They also demonstrated a three-fold higher risk in the week following infection with respiratory syncytial virus and other respiratory viruses.

Blackburn and colleagues[2] did a time series analysis of English hospital admissions for MI and stroke, laboratory-confirmed viral respiratory infections, and environmental data for 2004-2015. The admissions were age stratified into those 45-64, 65-74, and 75 years or older. The results demonstrated weekly hospital admissions in adults 45 and over averaged 1347 for MI, and 1175 for stroke. Respiratory infections ranged from 11 cases per week for influenza to 55 for rhinovirus. In the adjusted models, all viruses except parainfluenza were significantly associated with MI and ischemic stroke admissions in those aged 75 or older. Among 65- to 74-year-olds, adenovirus, rhinovirus, and RSV were associated with MI but not ischemic stroke admissions. Respiratory infections were not associated with MI or ischemic stroke in people aged 45-64 years, nor with hemorrhagic stroke in any age group. An estimated 0.4%-5.7% of MI and ischemic stroke admissions were felt to be attributable to respiratory infection.

Since influenza leads to an elevated risk of MI and stroke, a logical question is to ask if influenza immunization can reduce that risk. Several observational and randomized control trials indicate that standard influenza vaccines can in fact do just that. A Cochrane review in 2015 concluded that the strength of evidence is best for individuals who have underlying cardiovascular disease. The strength of evidence is better for heart failure and MI than for ischemic stroke. The prevention effect size varies from 15-45% for acute myocardial infarction and major cardiovascular events. There is less clear effect size on ischemic stroke. What is truly amazing is that MacIntyre and colleagues[3] demonstrated that the protective effect of influenza immunization in terms of cardiovascular risk is comparable to statin and antihypertensive therapy, and even smoking cessation. The authors concluded that influenza vaccination should be an integral component of a cardiovascular disease prevention and management program.

Getting the flu shot is the single most important thing you can do to protect yourself, your family, your work associates, and your residents, BUT it is not enough. It is essential that we adhere to basic hygiene practices: cover your nose and mouth with a tissue when you cough or sneeze; wash your hands often with soap and water for at least 20 seconds (about the time it takes to sing Happy Birthday twice), or use hand sanitizer with at least 60% alcohol; avoid touching your eyes, nose and mouth; avoid close contact with sick people; and if you're experiencing flu-like symptoms, stay home. If you're sick and sharing common space within your home, wear a face mask.

To provide easy access to Flu shots for your staff and residents you may want to hold a Flu clinic in your AL community. The National Adult and Influenza Immunization Summit (NAIIS) has created a Vaccination Clinic Checklist to assure complete compliance when holding a vaccination clinic in a temporary setting such as an assisted living or skilled nursing environment. This checklist and other processes and forms can be utilized whether you conduct the Flu clinic yourself or utilize an external provider. For the clinic checklist and the other forms and information available please go to: http://www.izsummitpartners.org/off-site-vaccination-clinic-checklist.

Now let's discuss the facts related to the flu vaccine. First of all, you cannot get the flu from the vaccine! The flu vaccine is prepared from killed virus that stimulates an antibody response within 2 weeks. It is approved for use in those 6 months and older. Egg allergy is not a contraindication. People who have severe egg allergies should be vaccinated in a medical setting and supervised by a healthcare provider who is able to recognize and manage allergic conditions.

Another question you may have is, "Why is yearly vaccination required?" There are a couple of reasons for this. Unlike the measles, mumps, or Hepatitis B vaccines which confer immunity for life, flu immunity starts to decrease after several months. So this year's flu shot will not provide protection next year. The other reason is that the flu virus can mutate. And the vaccine that we use this year may not be as effective next year, so the vaccine manufacturers tailor the vaccine to the expected flu viruses that will circulate that year.

When should you get your flu shot? As soon as it is available. This is usually in September. Your antibodies are adequate within about 2 weeks. This means that you are well-protected by the time the flu usually peaks in January. However, sometimes the flu can start earlier, so best to get your flu shot as soon as it is available. What if you don't like shots? It is important to get over it because influenza is potentially very serious and results in many thousands of hospitalizations and deaths every year. I recall last year that one of our assisted living associates had a real dread of getting a shot. But she overcame her fear, and got the shot. But she couldn't even look, and the funny thing was, when the nurse gave her the shot, the associate did not even know that she had received it. So. . .often the fear is in our mind. This associate admitted that her fear was much worse than the shot.

Another question you may have—can I still get the flu? Although the flu shot markedly decreases your risk for getting the flu, it does not eliminate the risk. Studies have shown that the illness severity is typically much less than if you did not get the flu vaccine. Also, understand that the flu shot does not prevent you from getting the common cold, so it is still important to practice the other infection control measures that are known to be effective—frequent hand hygiene, cough etiquette, and droplet precautions. And since the virus responsible for COVID-19 will be circulating along with the influenza virus during the next flu season, it is important to wear your mask when in public and to practice social distancing. Some recent research even suggests that it may be advisable to use an eye shield as well since these viruses can be transmitted not only through the nose and mouth, but the eyes as well.

Getting the influenza vaccine is not only important for us and our families, but research has demonstrated that staff immunization in assisted living and long-term care settings is associated with a marked reduction in flu-related hospitalizations and deaths of residents. Older adults are especially high-risk for the complications of influenza, especially if they have other chronic medical conditions. People of any age who have diabetes, heart disease, lung or kidney disease, or any chronic medical condition are at greater risk for flu-related complications. Immunization needs to be strongly encouraged for those who live with or care for those at high risk for complications from flu, including: health care workers, household contacts of persons at high risk for complications from the flu, household contacts and out of home caregivers of children less than 6 months of age. The high-dose vaccines offer a greater degree of protection for older adults, and there is emerging evidence that they offer enhanced cardiac protection.

Another high-risk group includes pregnant women. Pregnant women need to get a flu shot to protect them and their baby, since the flu vaccine is not recommended until the baby is over 6 months of age. Because children cannot be vaccinated until they are at least 6 months old it is imperative staff be immunized to protect their own children. Flu kills children of all ages. Staff can be exposed to the flu on any shift. Residents may be contagious and yet have no symptoms. The only way to protect staff children, parents, and other relatives is with a vaccination. Staff need to understand the potentially serious consequences of vaccination refusal for their children and other family members.

What are the contraindications to the influenza vaccine? The answer is remarkably few. They include: people who have had a severe reaction to an influenza vaccination in the past; people who developed a rare condition called Guillain-Barre syndrome within 6 weeks of getting an influenza vaccine previously; and, as previously noted, the flu vaccine is not approved for use in children less than 6 months of age. People who have a moderate or severe illness with a fever should wait to get vaccinated until their symptoms lessen.

Are there effective treatments for influenza? Unlike COVID-19 which has no currently approved antiviral medication, there are four anti-viral drugs that are available to treat influenza. These drugs may help control flu outbreaks in places where a lot of people at high risk of serious flu complications are close together (e.g., nursing homes, assisted living communities, hospitals). They may reduce severity of flu symptoms and reduce the number of days that people are sick. They may also be used to prevent the flu for people who have been close to someone with the flu. They can be used for people that need protection from the flu but either didn't get the flu shot or they can't get the vaccine because of a contraindication.

Other important considerations in the treatment of influenza includes rest and fluids. Persons with flu-like symptoms should stay home from work and contact their health care provider to determine if testing and/or treatment is required. The CDC recommends that persons with the flu do not return to work for 7 days after the onset of flu-like symptoms or until symptom-free off all fever reducing medication, such as acetaminophen, aspirin, or ibuprofen, for 24 hours, whichever is longer. Notice that this is different than the symptom-based strategy the CDC recommends for COVID-19 which states that as least 3 days (72 hours) have passed since recovery, defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath); and at least 10 days have passed since symptoms first appeared.

How do we improve vaccination rates among our colleagues, our residents, families, and friends? First, become a champion, set the example and get immunized yourself! Create a robust Infection Prevention/Control Program within your assisted living community, include your medical director if you have one, a pharmacy representative and a member from each department to serve on the committee to create, implement, review and revise policies and procedures. The committee must be able to adjust and revamp programs with the changing landscape of the flu presented each year.

The hardest part for many assisted living communities is to create a sense of urgency and obtain leadership support. Create a culture of immunization. Consider a vaccine mandate within your organization. Check state employment laws in this regard. Offer the vaccine at times convenient to your staff members. No one likes to come in early or on their day off to get a flu shot. Remind staff they are protecting THEIR families as they could take the flu home from work. Review the CDC flu and COVID-19 guidelines frequently to ascertain changes, new treatments, tracking tools, infection prevention assistance and training. Check with your state for restrictions, guidelines, mandates and new treatments.

Recognize that your immunization initiative needs to be a team effort of your multidisciplinary vaccine committee. Identify a project champion, but also a co-champion so that your project is not derailed if the champion gets sick or gets transferred. Ensure that your committee meets monthly to address vaccine policies, procedures, and concerns. In light of the COVID-19 pandemic, these meetings may need to be done virtually.

Collect your data to assess your progress. Create an immunization registry and dashboard. Review monthly immunization data reports and make this public within your organization. Utilize reminder and recall systems. Review all checklists from the National Adult and Influenza Immunization Summit (NAIIS), the CDC or the COVID-19 Checklist attached. Address and overcome cost and billing concerns. Participate in collaboratives, workgroups, and summits. Increase education and awareness regarding the importance of immunization. Utilize collateral materials to create enthusiasm and gather available collaterals that provide clear guidance and steps for implementation. Create standing orders for administering vaccines.

Charles Schulz, the creator of the Peanuts Comic Strip said, "It's either the flu or love. . .The symptoms are the same." Let's make it love. . .show your family, your friends, your fellow associates, and your residents that you love them by getting your flu shot and encouraging them to get theirs.

Additional resources

Centers for Disease Control and Prevention (CDC) website: www.cdc.gov

Advisory Committee on Immunization Practices: https://www.cdc.gov/vaccines/acip/

Immunization Action Coalition (IAC) website: www.immunize.org

National Adult and Influenza Immunization Summit (NAIIS) https://www.izsummitpartners.org/

Charting a Path to Increase Immunization Rates in Post-Acute and Long-Term Care Settings: https://www.geron.org/images/navp/pdfs/ImmunizRatesWP_FNL.pdf

National Foundation for Infectious Diseases (NFID): www.nfid.org

Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.gerinurse.2020.08.015.

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