

**Impact of Flu Season on Elders**

**A Research Paper by the All4Smiles Research Team**

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## **Abstract**

As we welcome autumn, we also enter the flu season. Those who are most impacted by this shift include the very young and the elderly. In this paper, our research team will look at how flu season impacts senior health. First, we will look at the vulnerability of seniors to Influenza; why are elderly at higher risk for flu-related complications? Then we will explore preventative measures from vaccines to social distancing. We will also mention flu symptoms and complications, including the exacerbation of chronic disease among the elderly. Finally, we will discuss complications in receiving proper healthcare to combat flu season.

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## **Vulnerability of Seniors to Influenza**

**By: Ifra Iyoob**

As the human body ages, our ability to fight off infections—that includes the flu—decreases. Consequently, people aged 65 and older are much more likely to not only contract the flu, but to suffer severe complications compared to younger, healthy adults. All of these effects can be rooted to the process by which the immune system weakens with age, medically known as immunosenescence. This phenomenon makes it significantly harder for elderly people to fight off the influenza virus. According to the CDC, “between 75 percent and 85 percent of season flu-related deaths” have occurred in those 65 years and older. In addition, studies have reported that older adults are increasingly prone to developing pneumonia, bronchitis, and other complications that result from the flu.

Moreover, a majority of seniors live with pre-existing chronic health conditions. The most common include heart disease, diabetes, and respiratory issues. As a result, severity of influenza can be exacerbated by these health problems, subsequently leading to more serious health outcomes. For example, if a senior is living with chronic obstructive pulmonary disease, their body is already working overtime to combat that condition. Once faced with influenza, senior immune systems are weak and much more susceptible to not only contracting the virus, but experiencing serious complications that may require hospitalization.

Social factors can also be thrown into the mix. While senior vaccination rates are much higher than that of younger populations, some may still be reluctant to receive inoculation because of paranoia and suspicions. In addition, the flu vaccine may actually be less effective in older individuals than younger populations. According to research by the National Institutes of Health, increasing evidence demonstrates that the influenza vaccine may be less effective in the

elderly than younger adults. This has especially been reported during the winter season, when the flu is at its peak infection rate. Even with this being the case, some amount of protection is better than none. Therefore, it is continually important that elderly receive the flu vaccine yearly—essential to remember is that the flu is constantly mutating, so last year’s vaccine may not be as effective as this year’s.

The vulnerability of seniors to influenza is a multifaceted issue that is influenced by biology, health, and social factors. It is crucial for healthcare workers, public health officials, and seniors themselves to understand these vulnerabilities; this comprehension allows for public health policies and interventions to be more targeted and effective. As our world becomes increasingly grayer, prioritizing the health of seniors in the context of influenza will prove more and more necessary in order to reduce morbidity and mortality associated with the virus.

## **Preventative Measures for Seniors**

**By: Joyce Sato**

With the flu season approaching, it is even more crucial that we take extensive preventative measures to keep ourselves healthy. To combat the spreading illnesses, seniors should understand the importance of vaccination, maintaining healthy hygiene habits, and adopting lifestyle practices that will help fight off disease.

### **Vaccines**

First and foremost, vaccination is the most effective defense against the flu. Seniors aged 65 and older should receive high-dose flu vaccines, such as Fluzone High-Dose Quadrivalent, which are intended to boost immune responses in older adults. Around 70% of seniors received a flu vaccine in 2022-2023, in contrast to 35% of adults who received a flu vaccine. Additional vaccines like covid-19 may also be relevant in keeping your immune system up to date.

### **Good hygiene and Lifestyle**

Everyday good hygiene and cleanliness is essential to prevent the spread of germs and bacteria. Handwashing with soap and water, using alcohol-based hand sanitizers, and cleaning high-touch surfaces can significantly lower the risk of infection. Avoiding individuals who show signs of sickness or have been tested for illnesses such as covid is best until they are no longer contagious or fully recovered. Everyday lifestyle makes up a great deal of how well our immune system performs. Regular physical activity, a balanced diet rich in nutrients, sufficient sleep, and stress management all play a vital role in the body's ability to fight off infections. Your overall health will play a large role in the body's condition when faced with an illness to fend off.

## **Flu Symptoms and Complications in Seniors**

**By: Mumtahina Hemi**

The flu (influenza) is a contagious respiratory illness caused by viruses in the nose, throat, and sometimes in the lungs. In seniors, the flu can be a significant risk due to age-related awakenings of the immune system, making them more susceptible to common colds and worsening side effects.

### **Common Flu Symptoms:**

These symptoms can appear suddenly and can include:

- Fevers and/or chills (can vary from person to person)
- Dry cough, sore throat, and runny or stuffy nose
- Muscle or body aches
- Headaches and fatigue
- Nausea and vomiting (more common in children, but can affect seniors as well)

These symptoms are more intense than the common cold and can last longer.

### **Potential Complications:**

Seniors are more susceptible to complications after the flu, which may lead to hospitalization. Common complications include:

1. **Exacerbation of Chronic Conditions:** Pre-existing conditions such as asthma and diabetes can worsen due to a weak immune system
2. **Pneumonia:** A severe lung infection, often caused by bacterial problems following the flu
3. **Hospitalization:** Flu can cause severe respiratory distress, requiring intensive care. It accounts for most hospitalizations related to the flu

4. **Other Complications:** These include bronchitis, ear infections, and worsening of neurological conditions like Alzheimer's disease

**Preventions:**

Annual flu vaccinations are highly recommended for seniors as they can help to reduce the severity of symptoms and/or further complications. Additionally, good hygiene practices are very important: washing your hands thoroughly, carrying a small bottle of hand sanitizer, staying away from sick individuals. These small practices can help you to remain healthy.



## **Access to Healthcare and Resources**

**By: Evelyn Yao**

Influenza has a mild effect on most people, limited to a sore throat and a runny nose, but complications can occur. These complications include ear and sinus infections, lung infections, heart inflammation, the worsening of chronic conditions, and a short-term risk of heart attack. However, the elderly face a higher risk of these complications and hospitalization as a result of influenza. The immune systems of older adults are less adept at driving away flu, so these adults face a higher risk of contracting pneumonia and hospitalization. Beyond this, however, are the facts that flu increases the risk of a heart attack by three to five times and stroke by two or three times for adults older than 65, according to the National Foundation for Infectious Diseases. Thus, getting a flu vaccination is imperative for the elderly to stay safe and healthy during flu season. Unfortunately, barriers to accessing healthcare during flu season make it difficult for some elderly to get flu vaccinations, which must be addressed.

To begin, only one in two American adults got a flu vaccine during the 2021-2022 flu season, according to the Centers for Disease Control. Notably, less than 43% of Black, Hispanic, and American Indian/Alaska Native adults were vaccinated, and flu hospitalization rates were nearly 80% higher for Black adults compared to White adults from 2009 to 2022. The deep-rooted racism and prejudice present in the healthcare system explains these numbers, as many racial minorities have a lack of access to insurance and are more prone to being misdiagnosed by healthcare providers. Additionally, misinformation and missed opportunities for flu vaccinations also explain these numbers. The lack of healthcare insurance can increase the cost of immunizations, causing these racial minorities to bypass getting vaccinated. In addition, distrust towards the healthcare system because of past examples of prejudice or racism can

compromise the health of so many racial minorities as well as the elderly. A lack of access to vaccinations due to transportation barriers also exacerbates the low number of vaccinations. In rural areas or low-income areas, finding transportation to vaccination sites can be troublesome and even impossible. A solution could be to provide in-home vaccination services or offering more vaccinations at other times.

Similarly, health literacy is the ability to understand and use health information to make decisions about healthcare and prevention. People with lower health literacy are less likely to get vaccinated because of a lack of understanding of the benefits of flu vaccinations. Vaccine hesitancy can be caused by distrust in the healthcare system, distrust in vaccines, and misinformation about the cost of vaccines or its side effects. Among the elderly, especially, are old-fashioned beliefs that dismiss vaccines and its positive effects. The elderly are more likely to fear vaccines and refuse it, even though they are the subset that requires vaccines the most. Exposing the elderly to health education and breaking down their fears is necessary to keep them safe during flu season. The area in which the elderly live also affects the availability of flu treatment and vaccination programs, as according to the CDC, rural adults had lower flu vaccination coverage compared to suburban and urban adults as of mid-November 2022. A lack of health clinics and pharmacies in rural areas contributes to a lack of vaccination programs in these regions, isolating those in rural areas from receiving flu vaccinations. Coupled with a lack of transportation, the elderly in rural areas face significant barriers to flu vaccinations because of the lack of facilities available near them.

Overall, flu season is monumental for seniors, as it is when seniors are the most vulnerable to influenza and other complications. Understanding the barriers to flu vaccinations for the elderly is necessary to protect the elderly and their health. From a systematic racial issues

in the healthcare system to a lack of transportation, the elderly who belong to racial minorities and in rural regions are particularly vulnerable to flu season. As a result, more interventions need to be staged to ensure more elderly can get access to flu vaccinations in this pivotal time.

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