

# Influenza assignment essay sample



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1. At the turn of the century, the United States encountered one of the most deadly pandemics the world has ever known – the Spanish flu. The flu, caused by H1N1 virus, claimed the lives of 675, 000 Americans during World War I. About forty years later, in 1957, another pandemic caused by H2N2 killed approximately 70, 000 Americans. The virus, which contained genes from human and avian influenza, was firstly identified in China then quickly spread to other parts of the world. In 1968, an outbreak of H3N2 virus (which also was the result of human and avian influenza genes) occurred and caused 34, 000 deaths among Americans. The most recent occurrence of influenza viruses was what called the “ Swine Flu.” The Swine Flu was caused by a new strain of H1N1 virus and had its outbreak just last year in 2009.

2. For my assignment, I have to choose three out of five people to give vaccinations or nasal spray to because of the limited resource. My choice, after having done the research, would be:

1. Bogey Phlegmenstein – the 50 year-old pharmacist for the vaccine. 2. Helen Hornblower – the 72 year-old grandmother for the vaccine, and 3. Lars Loogenkugel – the 19 year-old college student for the nasal mist flu shot.

I choose Lars for the nasal mist flu shot. According to the Centers for Disease Control (CDC) and Prevention, nasal spray should only be given to healthy people age 2-49 and not pregnant. Since Lars is the only person within the approved age and is not pregnant, he seems to be the only choice!

The other people in the group all seem to be at equal risk of catching the flu, however, I choose Bogey and Helen to give the vaccines to because there are more reasons for me to do so.

Helen is at risk because firstly, she's an elderly – the group of people that is at high risk of catching flu, according to CDC. Secondly, Helen's grandchildren are young (3, 5 and 8 years of age) and they visit her very often. Her eldest grandchild has asthma which, according to the Government Medicare's website, places her at more risk of catching the flu if her grandma has it. Lastly, I choose to give Helen the shot because here she can get it for free. Helen's regular medications already cost her lot of money because her Medicare does not cover it for her.

Next, I choose Bogey because he has three risk factors. Firstly, he's in the age group that is more prone to getting sick from influenza (people age 50 and over, according to CDC). He also has a history of having secondary bronchitis and pneumonia which, according to the Government Medicare's website, place him “ at higher risk for having medical complications from influenza and should receive the flu shot.” Lastly, Bogey works at a pharmacy, where he is exposed to sick people that come and get their medicines. That increases his risk of getting the flu.

I do not choose Nadia – the pregnant woman because even though she is in one of the groups that have high risk of getting influenza, she has always been healthy. Her workplace seems safer than Bogey's and her husband (who is the only person she interacts with at home) has consistently had vaccinations. Also, even though Nadia babysits her sister's 2 year-old twins, it only happens occasionally so the kids are not at high risk of having the flu if their aunt has it.

I also do not choose Marian, the 18 month-old baby who is also in one of the groups that face high risk of having flu (children younger than 2 years old, according to CDC). Her caregiver (which is her mom) works at a long-term care facility, which places her at high risk but luckily, Marian's mom has already been vaccinated. It reduces the risk of the mom getting sick and passes it to her baby. ConsumerReports. Org also advises that " If your child has had three or more ear infections in one winter, you might want to ask your doctor about getting a flu vaccine." Marian has had ear infections twice in the past 8 months and that maybe something to take into concern. I would advise the mom to take her to a doctor first before giving her any flu shots.

3. There are many prevention practices one can take to prevent themselves from getting the flu. These practices, suggested by the Student Health Service of the University of Pennsylvania, include:

1. Wash hands. Do it often because most cold and flu viruses travel through hands. The best one to stop the spread is washing hands frequently and avoiding direct contact with sources of germs.
2. Drink plenty of fluids. The reason is because water helps flushing your systems and eliminating poisons from your body. An average adult needs about eight 8-ounce glasses of fluids each day.
3. Eat foods containing phytochemicals. " Phyto" means plants and the natural chemicals in plants give you a lot of vitamins needed when fighting flu. Colorful vegetables (especially dark green, red and yellow ones) are great sources of vitamins. Therefore, instead of taking vitamin pills, you should eat more vegetables.
4. Do aerobics exercise regularly. Exercising gives you and more healthy and effective heart. It also helps increase natural virus-killing cells in the body.
5. Don't smoke or drink. These

bad habits weaken your immune system and you will be more likely to catch a flu than those who don't smoke or drink.

4. Even though I do not give Nadia and Marian the flu shots, I will still advise them to seek the vaccinations elsewhere. For Nadia's fear of getting Guillian Barre Syndrome, I will quote Flu. Gov's Fact Sheet about Guillian Syndrome, " Except for the swine flu vaccine used in 1976, no other flu vaccines have been clearly linked to GBS." The vaccine Nadia's uncle had is very different from the one being used right now so there is little need for her to be worried. However, if Nadia does get sick, what she should do is stay home, limit contacts with others and drink plenty of fluids. If Nadia start to develop fever, she should treat it right away with acetaminophen (Tylenol®), which is " the best over-the-counter treatment of fever in pregnancy" according to Flu. Gov. For Marian, I, as having said, would advise her mom to take her to the doctor first so her condition is checked. After that, if the baby is healthy, I would recommend a flu shot for her. As for the mom, who is the main caregiver of Marian, I would instruct her to always wash her hands before preparing food for her child. If she does get sick with the flu, what she should do is minimize contacts with the baby. Also, she should put on a " surgical mask" (available at drugstores) " before engaging in any activity within 3-6 feet of [the] infant." (as advised by CDC).

Beside the two people who do not get the shot, I would also advise Bogey – the pharmacist – to get a one-time vaccination for pneumococcal pneumonia to prevent him from being sick with it again (according to Government Medicare).

## Part II

## Question 4:

A cytokine storm means an increase in the number of antibodies that exceed the need of the body and cause harm to it. In an influenza infection, cytokine happens when the body overreacts to the infectious microorganism and sends out too many antibodies that instead of killing it, the overwhelming antibodies cause the organs to malfunction and cause more harm to the body than the microorganism actually does.

## Question 3:

Antigenic drifts are small changes in the virus that happen every year and are predictable. It produces new virus strains that the immune system may not recognize. That is why flu vaccine are updated every year in order to adapt with the new strains of virus and people will have to get a flu shot every year if they want to be protected.

## Question 4:

Antigenic shifts are major changes in the virus that are not predictable. It produces new and dangerous virus strains that the naïve population are not prepared for, thus result in quick spreads and pandemics. Mortality rate that results from antigenic shifts can be high.

## Question 8:

Edward Jenner was a British physician born in May 1796, who conducted experiments to understand why milkmaids didn't get small pox. Jenner

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scraped cowpox sores, grounded them and turned them into a liquid solution that can be injected in people's skin. By doing so, he invented the first vaccine ever that helped prevent smallpox. His work is the foundation of immunology.

#### Question 10:

Symptoms of the cold usually include sneezing, sore throat, slight aches, hacking cough, stuffy nose and mild to moderate chest discomfort. Flu symptoms are usually more severe. They usually include fever, headache, aches and pains, fatigue or extreme exhaustion, chest discomfort and coughing can be severe.

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