

5 Persisting Myths About Flu and the Flu Vaccine

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January 18, 2019

The flu season predictably comes and goes each year and still people choose to ignore its perils by eschewing the annual flu shot. In fact, more than 40% of adults in one survey said that they [hadn't been, and didn't intend to be, vaccinated against flu](#).

This is unfortunate, experts agree, because [influenza](#) can strike even the healthiest among us and, at the very least, give those afflicted a miserable ride before they begin to recover.

Why people avoid the annual flu shot is complicated, but at least some of the avoidance has to do with misconceptions about influenza and the vaccines that are designed to prevent it.

Here are five common myths about influenza and its protective vaccines that Lisa Grohskopf, MD, MPH, medical officer in the [Influenza Division](#) at the Centers for Disease Control and Prevention (CDC), and Paul Offit, MD, professor of pediatrics and director of the [Vaccine Education Center](#) at Children's Hospital of Philadelphia, hope to dispel.

Myth 1: The Flu Vaccine Can Cause the Flu

The flu vaccine itself absolutely, categorically, cannot cause the flu. As Grohskopf explains, most of the influenza vaccines in use today contain either killed viruses, weakened viruses, or no virus whatsoever, so a person cannot get the flu from any vaccine. Take the nasal spray vaccine, for example. This vaccine actually does contain a live, albeit attenuated (weakened) virus, but these viruses can only replicate at cooler temperatures within the nose and cannot infect the lungs or other parts of the body where temperatures are warmer; even this vaccine can't cause the flu. So what might be happening if someone has a flu shot and comes down with the "flu"?

Several things might explain "flu" symptoms. First, it takes about 2 weeks for the body to mount an immune response to any influenza vaccine, during which time people will not be protected against influenza infection, no matter how good the vaccine is. Most people get their flu shot in a clinic or doctor's office where sick people congregate, some of whom are probably there because they have the flu! A host of other upper respiratory tract viruses have the same seasonal pattern as influenza, and these can cause mild, [influenza-like symptoms](#) which people attribute to the flu but which are caused by an unrelated virus, as Offit stresses.

People may also experience flu-like symptoms despite getting vaccinated if they've been exposed to a virus in the community that differs from those in the seasonal vaccine, so they won't be protected against it. (More on vaccine efficacy later.) "The majority of side effects will be related to where the vaccine was given—a sore arm or a bit of swelling," Grohskopf observes.

Evidence also suggests that if you are vaccinated against influenza and still get the flu, the illness will be less severe than it would have been had you not received the vaccine. In one CDC study,^[1] for example, patients hospitalized with the flu who had not been vaccinated before hospitalization were two to five times more likely to die than hospitalized patients who had previously been vaccinated.

"There is good reason to believe that even in a situation where the vaccine doesn't protect you completely, you are still getting some important protection from vaccination," Grohskopf emphasizes.

Myth 2: Healthy People Don't Need a Flu Shot

You may hear a patient say, "I'm healthy, I never get the flu, so I don't need the annual flu shot."

"We know that some people are more vulnerable to getting severely ill with the flu than others—those with chronic lung or heart disease or those whose immune systems are compromised in some way," Grohskopf acknowledges. On the other hand, not even the experts can predict, on an individual basis, who among us is going to get the most severely ill from the flu. Sometimes, perfectly healthy adults and even children, who have no risk factors for severe illness, get sick enough from the flu to require hospitalization or even die from the flu.

Given that who will be most severely affected cannot be identified ahead of time, "the recommendation is for all people from the age of 6 months and older to get the annual flu shot," Grohskopf says. Furthermore, especially for adults who may be caring for very young infants, pediatricians warn that infants who are still too young to be vaccinated cannot make protective antibodies against influenza until they are approximately 6 months of age. These young infants are especially vulnerable to getting the flu from their caregivers and anyone around them who harbors the infection.

In another CDC study,^[2] the flu shot reduced the risk for influenza-related death by 51% among children with high-risk medical conditions and by 65% among healthy children—a clear sign that the medical community can prevent more influenza-related deaths by vaccinating more children. "What I often say to parents is, you don't want to become a member of a parent advocacy group such as Families Fighting Flu. That's what parents in these groups have become because they unfortunately had to watch their child suffer and die from an influenza infection," Offit says.

Tell patients, "If you don't get the flu shot for yourself, get it to protect the most vulnerable people around you who may be at greater risk of getting the flu and suffering from its potentially fatal consequences."

Myth 3: The Flu Is Just a Bad Cold

It's just the flu, no big deal; the flu is just like a bad cold. "There's no such thing as 'just' the flu—people really need to know what the flu is," is Offit's response to this belief. Flu, he elaborates, "knocks you on your butt." People can often identify the hour the infection started, he adds. Influenza is heralded by symptoms of high fever, shaking, chills, achy muscles, and [headache](#). In the worst-case scenario, people can develop severe lower respiratory tract symptoms such as a racking cough and even pneumonia. In contrast, "colds are annoying—you might have a scratchy throat and a runny nose, and you might even have a fever with a cold," says Grohskopf.

However, people are rarely, if ever, hospitalized for a cold, she notes. Contrast that with what the flu did to people last year. During the 2017-2018 influenza season, CDC estimated that 48.8 million people got sick with the flu, 22.7 million people sought some form of medical attention because of flu-like symptoms, 959,000 were hospitalized because of the flu, and 79,400 people died.^[3] (That said, the burden of illness during the 2017-2018 influenza season was particularly high compared with other seasons and the infection was severe for all ages among the population.)

On the basis of records of death occurring in and out of hospitals, the CDC also estimated that there were more than 600 influenza-related deaths among children in the 2017-2018 season.^[3] "Influenza is a bad illness," Offit affirms, adding, "We all think it's never going to happen to us until it happens to us. Influenza is a serious illness and people need to take it seriously."

Myth 4: The Flu Vaccine Isn't Effective

Some people believe that none of the vaccines are all that effective against the flu, especially in older adults, so why should they bother? At their best, standard-dose influenza vaccines afford the best protection against illness in children under the age of 8 years, in whom they are about 65% protective against the flu, according to Offit. After that, vaccine efficacy depends both on the patient's age and how well the viruses in the vaccine match those circulating in the community. Both Grohskopf and Offit confirm that the vaccine is a good match for this year's circulating viruses, especially the H1N1 strain, which is the predominant strain this year.

To be more precise, the H1N1 strain is actually the H1N1pdm09, which came into existence during the pandemic flu season in 2009 and was initially called the "[swine flu](#)." Although it's not called swine flu any more, the H1N1 strain in this year's seasonal vaccine does protect against the H1N1pdm09 strain, so people can be reassured that receiving this year's [seasonal influenza](#) vaccine protects them against "swine flu."

As a ballpark figure, Offit pegs overall vaccine efficacy for the general population somewhere around 40%. "That's arguably our least effective vaccine," he acknowledges, adding, "but there were almost 80,000 deaths from influenza last year, and if you get vaccinated, you decrease the chances that you could be among the dead by 40%. To me, it's worth it." Looked at from a population perspective, the collective benefit of having people vaccinated against influenza is also quite impressive. During the 2016-2017 influenza season, for example, vaccination against influenza prevented approximately 85,000 influenza-related hospitalizations across the United States.^[4]

CDC does not favor any one vaccine over another; rather, they recommend that healthcare providers offer any licensed, age-appropriate vaccine to nearly everyone over the age of 6 months. However, patients might want to request a specific vaccine because some vaccines are more effective, although not spectacularly so, than standard-dose flu shots. For example, the MF-59 adjuvanted vaccine (FLUAD; Seqirus) and the high-dose influenza vaccine

(Fluzone; Sanofi) are both more effective than standard-dose flu shots in patients aged 65 and older, and may be good choices for older adults. (In Canada, the MF-59 adjuvanted vaccine is also recommended for children from age 6 months until 2 years, but this is not the case in the United States.)

Furthermore, a vaccine that is not manufactured in eggs, as most vaccines are, but which is a cell-based vaccine (Flucelvax; Seqirus) might be more effective than standard-dose influenza vaccines and may be used for those needing an extra boost to achieve an optimal immune response against the flu. Flucelvax is approved for those aged 18 and older. Patients who are still unconvinced that the flu shot is safe can ask for the recombinant flu vaccine (FluBlok; Sanofi) which does not contain any virus at all.

Of importance, children between the ages of 6 months and 8 years who are getting vaccinated for the first time against influenza require two shots of the vaccine, spaced at least 4 weeks apart. The flu shot is also widely recommended for pregnant women, not only to protect the mother from getting the flu during pregnancy but because being vaccinated during pregnancy helps protect the newborn from the flu through the transfer of maternal antibodies in utero, as Grohskopf explains.

Vaccination against the flu doesn't only protect people from influenza illness. According to a meta-analysis of major clinical trials,^[5] adult vaccination against the flu cuts the risk of having a major cardiovascular event by more than one third, an effect that is especially pronounced among patients with active coronary disease.

"We have a lot of different influenza vaccines out there and there is no preference for any particular product," says Grohskopf. "The important thing is to just get vaccinated."

Myth 5: It's Too Late to Get a Flu Shot

Here's a common refrain as the winter progresses and spring seems to be just around the corner: "The flu season is well underway, so it's too late to get the flu shot." It's true that CDC recommends that people be vaccinated in time to be protected against flu outbreaks, typically by the end of October, although flu outbreaks can happen weeks earlier, as they did this season.^[6] However, as long as flu viruses remain in circulation, it's not too late to get vaccinated—even in January, when the flu season is likely peaking. As CDC points out, flu activity can last as late as May, allowing plenty of time to get sick from the flu and plenty of time to prevent it.

"We generally say, even if you have not been vaccinated by December or January, it's still not too late," Grohskopf advises, adding, "As long as flu is circulating in your community, it is reasonable to get vaccinated."

References

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Cite this article: 5 Persisting Myths About Flu and the Flu Vaccine - *Medscape* - Jan 18, 2019.