

# **It's Not Just The Flu**

## **Kentucky Rural Health Association Immunization Summit**

***Jeb Teichman, MD***

*Chief Medical Advisor for Families Fighting Flu*

***May 10, 2023***

# Agenda

- **A Father's story**
- **2022 - 2023 Flu Season**
- **Vaccine Fatigue**
- **Vaccine Mandates at Risk**
- **Influenza Vaccine**
- **What you can do to reduce Influenza outbreaks?**
- **Q&A**

## Disclosures:

- I have no financial relationships, or any other relationships that would create a conflict of interest, with any vaccine manufacturers mentioned in the presentation.
- No other planners or presenter have disclosed any relevant financial relationships with any commercial entities whose products, research or services may be discussed in this activity.
- No commercial funding has been accepted for this activity.



# A Father's Story



**Brent Teichman**  
1990-2019



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# Brent's Story

- Brent was a healthy 29 years old
- He had been sick for 5 days before notifying family, too late to start antivirals
- He was referred to urgent care on day 7 for difficulty breathing
- He died in his sleep 4 hours after returning from urgent care

**Know your SIRS criteria  
and have a plan of action**



# Brent's Story

## SIRS criteria

- **Body temperature over 38 or under 36 degrees Celsius**
- **Heart rate greater than 90 bpm**
- **Respiratory rate greater than 20 breaths per minute**
- **Partial pressure of CO<sub>2</sub> less than 32 mmHg**



# Influenza Doesn't Discriminate

- **Brent was not vaccinated**
- **Getting vaccinated had been on Brent's to-do list, but life got busy**



# 2022-2023 INFLUENZA SEASON



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# Influenza Surveillance

**FLUVIEW**  
*interactive*

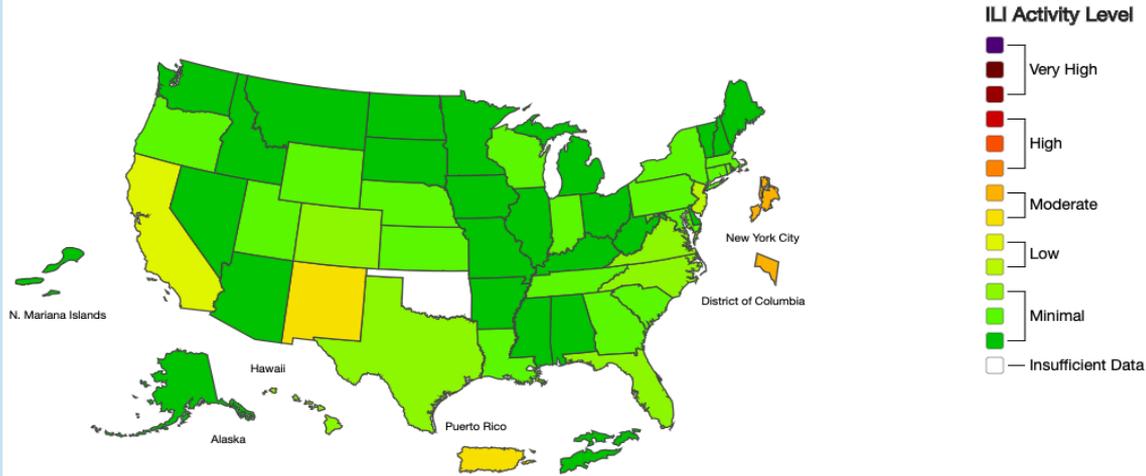


A Weekly Influenza Surveillance Report Prepared by the Influenza Division

Outpatient Respiratory Illness Activity Map Determined by Data Reported to ILINet

This system monitors visits for respiratory illness that includes fever plus a cough or sore throat, also referred to as ILI, not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

2022-23 Influenza Season Week 15 ending Apr 15, 2023



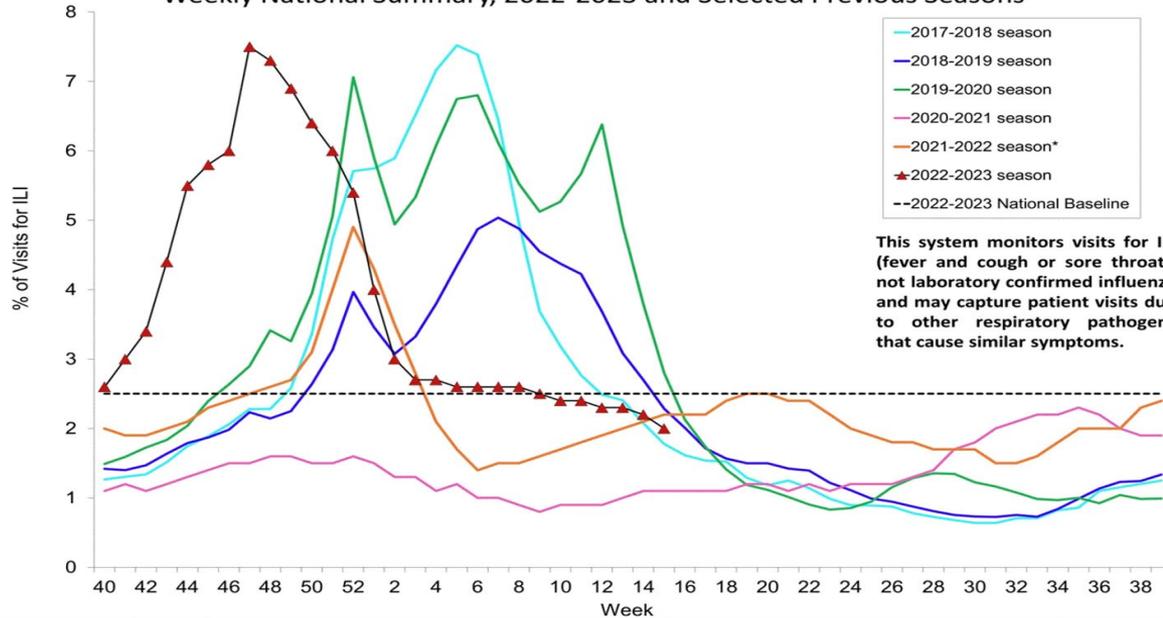
[Surveillance Map History](#)



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# It's Not Just The Flu

Percentage of Outpatient Visits for Respiratory Illness Reported By The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet), Weekly National Summary, 2022-2023 and Selected Previous Seasons



This system monitors visits for ILI (fever and cough or sore throat), not laboratory confirmed influenza and may capture patient visits due to other respiratory pathogens that cause similar symptoms.

- 290,000 National Hospitalizations
- 19,000 National Deaths
- 143 National Pediatric Deaths



# Kentucky

## Kentucky Data

- **133 Deaths 18 years of age or older**
- **9 Deaths less than 18 years of age**
  - **Week ending April 15, 2023**
- **KY vaccination rates 2021-2022 flu season per CDC**
  - **48.6% for 6 months - 17 years old**
  - **48.5% for adults 18 years and older**

## Kentucky Influenza Data



# National Vaccine Data

- **Vaccine rates 2022-2023 flu season as of March 18, 2023**
  - **54.9% for 6 months - 17 years old**
  - **48.3% for adults 18 years and older**
  - **48.6% for pregnant persons 18-49 years old**
- **Per CDC, the influenza vaccine is 71% effective at preventing symptomatic Influenza A in patients less than 18 years of age**



# Vaccine Fatigue



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# Vaccine Rates Decreasing

**TABLE. Estimated\* coverage<sup>†</sup> with measles, mumps, and rubella; diphtheria, tetanus, and acellular pertussis; poliovirus; and varicella vaccines; grace period or provisional enrollment<sup>§</sup>; and any exemption<sup>¶, \*\*</sup> among kindergartners, by immunization program — United States, <sup>††</sup> 2021–22 school year**

Immunization program	Kindergarten population <sup>§§</sup>	Surveyed, <sup>¶¶¶</sup> %	2 Doses MMR, <sup>***</sup> %	5 Doses DTaP, <sup>†††</sup> %	4 Doses polio, <sup>§§§</sup> %	2 Doses VAR, <sup>¶¶¶</sup> %	Grace period or provisional enrollment, %	Any exemption, %	Percentage point change in any exemption, 2020–2021
National estimate <sup>****</sup>	3,835,130	92.2	93.5	93.2	93.6	92.8	2.4	2.6	0.4
Median <sup>****</sup>	—	—	92.9	92	92.7	92.6	1.9	2.7	0.2
<b>OHIO</b>	<b>139,077</b>	<b>91.9</b>	<b>88.3</b>	<b>88.5</b>	<b>88.9</b>	<b>87.9</b>	<b>7.4</b>	<b>3</b>	<b>0.5</b>

\* Estimates adjusted for nonresponse and weighted for sampling where appropriate.

<sup>†</sup> Estimates based on a completed vaccination series (i.e., not vaccine specific) use the “≥” symbol. Coverage might include history of disease or laboratory evidence of immunity. In Kentucky, public schools reported numbers of children up to date with specific vaccines, and most private schools reported numbers of children who received all doses of all vaccines required for school entry.

<sup>§</sup> Some programs did not report the number of children with exemptions, but instead reported the number of exemptions for each vaccine, which could count some children more than once. Lower bounds of the percentage of children with any exemptions were estimated using the individual vaccines with the highest number of exemptions. Estimates based on vaccine-specific exemptions use the “≥” symbol.

<sup>§</sup> A grace period is a set number of days during which a student can be enrolled and attend school without proof of complete vaccination or exemption. Provisional enrollment allows a student without complete vaccination or exemption to attend school while completing a catch-up vaccination schedule. In states with one or both of these policies, the estimates represent the number of kindergartners who were within a grace period, were provisionally enrolled, or were in a combination of these categories.

<sup>\*\*</sup> Exemptions, grace period or provisional enrollment, and vaccine coverage status might not be mutually exclusive. Some children enrolled under a grace period or provisional enrollment might be exempt from one or more vaccinations, and children with exemptions might be fully vaccinated with one or more required vaccines.

<sup>††</sup> Includes five territories and three freely associated states.

<sup>¶¶</sup> The number surveyed represents the number surveyed for coverage. Exemption estimates are based on 29,010 kindergartners for Kansas, 58,276 for South Carolina, and 92,265 for Virginia.

<sup>\*\*\*</sup> Most states require 2 doses of MMR; Alaska, New Jersey, and Oregon require 2 doses of measles, 1 dose of mumps, and 1 dose of rubella vaccines. Georgia, New York, New York City, North Carolina, and Virginia require 2 doses of measles and mumps vaccines and 1 dose of rubella vaccine. Iowa requires 2 doses of measles vaccine and 2 doses of rubella vaccine.

<sup>†††</sup> Pertussis vaccination coverage might include some DTP doses if administered in another country or by a vaccination provider who continued to use DTP after 2000. Most states require 5 doses of DTaP for school entry, or 4 doses if the fourth dose was received on or after the fourth birthday; Maryland and Wisconsin require 4 doses; Nebraska requires 3 doses. The reported coverage estimates represent the percentage of kindergartners with the state-required number of DTaP doses, except for Kentucky, which requires ≥5 but reports ≥4 doses of DTaP.

<sup>§§§</sup> Most states require 4 doses of polio for school entry, or 3 doses if the fourth dose was received on or after the fourth birthday; Maryland and Nebraska require 3 doses. The reported coverage estimates represent the percentage of kindergartners with the state-required number of polio doses, except for Kentucky, which requires ≥4 but reports ≥3 doses of polio.

<sup>¶¶¶</sup> Most states require 2 doses of VAR for school entry; Alabama, Arizona, New Jersey, Oklahoma, and Oregon require 1 dose. Reporting of VAR status for kindergartners with a history of varicella disease varied within and among states; some kindergartners were reported as vaccinated against varicella and others as medically exempt.



# Vaccine Mandates at Risk



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# At Risk Immunization Requirements

- There are 22 states where legislation has been proposed to weaken immunization requirements for school entry.
- Nine additional states are looking to both weaken and strengthen immunization mandates.
- Since the 20th century, schools have required vaccinations against certain communicable diseases, including measles, whooping cough, and polio.
- Removal [or weakening] of school entry requirements will lead to decreased immunization coverage in children and an increase in vaccine-preventable disease transmission, causing kids to miss school and parents to miss work.
- Most parents support routine vaccination of children and adolescents, and more than 94% of kindergarteners in public schools are vaccinated as required by current state laws.[\[1\]](#)
- The cost of a whooping cough outbreak in a single school is \$51,000
- The cost of a measles outbreak in Minnesota in 2017 was \$1.3 million
- The annual cost of an average flu season is \$87 billion.[\[2\]](#)



# At Risk Immunization Requirements

- School vaccination requirements are effective health policy tools to prevent the spread of disease.
- Vaccines protect not only oneself but families, neighbors, and communities.
- Vaccines are especially important for children, older adults, those who are immunocompromised, and those who may not be able to get vaccinated.
- Vaccination save lives and money.
- Preventing disease leads to a better school environment where children can learn and thrive.
- Vaccination helps reduce absenteeism in school[\[3\]](#)
- Vaccination of children born between 1994 and 2021 will:
  - Prevent 472 million illnesses (29.8 million hospitalizations)
  - Help avoid 1,052,000 deaths
  - Save nearly \$2.2 trillion in total societal costs (that includes \$479 billion in direct costs)[\[4\]](#)
- COVID-19 vaccinations protect individuals from severe illness, hospitalization, and death. They have helped Americans get back to work and our daily lives.
- It is critical that Americans receive information on the benefits of vaccines so they can make informed decisions about vaccination.



# At Risk Immunization Requirements

## Resources and Information



<https://safecommunitiescoalition.org/>

[1] <https://www.immunizationmanagers.org/aim-statement-on-school-and-child-care-vaccination-entry-requirements/>

[2] <https://vaccinateyourfamily.org/why-vaccinate/vaccine-benefits/costs-of-disease-outbreaks/>

[3] <https://journals.sagepub.com/doi/10.1177/1059840510389182>

[4] <https://www.cdc.gov/vaccines/programs/vfc/protecting-children.html>



# What Happens When Vaccine Rates Decrease? A look at Measles

American Academy  
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN®

## Child Vaccination Across America

Vaccines are important for the health of individual children and teens as well as entire communities. Some communities in the United States have experienced disease outbreaks because of lower immunization rates in their area. Higher immunization rates protect vulnerable children who are too young to be vaccinated or who cannot be vaccinated for medical reasons, making immunizations an essential response to COVID-19 and other diseases.

You can use this interactive map to explore your state's immunization rates and compare them with national rates. These data come from the CDC National Immunization Survey and are updated annually.



Outbreak

[Interactive Map Link](#)



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# INFLUENZA VACCINE



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# Influenza Vaccine

- **Proven safe and effective for over 75 years**
  - Jonas Salk was one of the original researchers
- **Goal of vaccination:**
  - Highly effective at preventing hospitalization and death
  - 2022-2023 Influenza vaccine was 54% effective in 6 month to 64-year-olds against medically attended acute respiratory illness due to laboratory-confirmed Influenza A [1]
  - Especially important this year during the Tripledemic when our healthcare system was overwhelmed
- **Annual flu vaccination is the first line of defense**



# High Risk Populations

- Children younger than 5-years-old, especially those younger than 2-years-old.
- Individuals (all ages) with chronic diseases such as asthma, diabetes, cardiovascular diseases and obesity
- Individuals 65 years and older
- Pregnant women (infection with influenza can trigger premature birth)



# Myths and Misconceptions

## Myth:

“I don’t need the vaccine because I am not high risk. I am healthy.”

## Fact:

- Vaccinations are intended to **keep** you healthy
- Influenza vaccine protects the body before you get sick
- If you get Influenza it may be mild, but for those at high risk, getting infected could be fatal!
- You can infect someone 24 hrs before you know you are sick



# Myths and Misconceptions

## **Myth:**

“I got sick right after getting an Influenza vaccination.”

## **Fact:**

- It takes 2 weeks for the vaccine to provide full protection
- You may have already been infected prior to vaccination, or become infected shortly after vaccination
- You may have been infected by another virus, one that has similar symptoms to Influenza



# Myths and Misconceptions

## **Myth:**

“The Influenza vaccine is unsafe and has side effects.”

## **Fact:** Influenza vaccines are very safe

- Side effects are mild and typically only last 1-2 days
  - Redness/soreness at injection site or runny nose from nasal spray
  - Occasional headache, low grade fever, and body aches
  - Risk of serious side effects are extremely rare. Less than 1-2 cases per million vaccinations recorded



# Myths and Misconceptions

## Myth:

“The Influenza vaccine gave me the flu.”

**FACT:** The Influenza vaccine cannot give you the flu, it is impossible

- There are 2 types of Influenza vaccines
  - Those that contain only pieces of *killed* Influenza viruses
  - Nasal spray which contain *inactivated* viruses – which the viruses have been changed so that it cannot cause influenza



# What You Can Do?

**Be the Example and  
Change Behaviors**



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# How Can We Change Behaviors?

- **People need to take the flu and all vaccine preventable illness more seriously and get vaccinated.**
- **We need to inform the public when it is appropriate to access medical care when they are symptomatic.**
- **AND GET TESTED.**



# The Role of Healthcare Professionals

Trusted resource

Educate & inform patients

Protect public health

Set the example!



**A recommendation for all vaccinations from a healthcare professional is critically important for improving vaccination rates!**



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# Trusted Resource - Always Educating

- Always educate
- A story does resonate  
Families Fighting Flu's Family Stories
- Share your own story, or someone else's, either can make an impact
- Stories are 22x more memorable than statistics!



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**KNOCK OUT THE FLU**  
GET THE SHOT

**#4BRENT**

**Brent Teichman,**  
29 year-old son of Dr. Jeb Teichman, founder and long-time pediatrician of Jeffersonville Pediatrics (now Clark Pediatrics), passed away on November 3, 2019 due to influenza complications. Brent was an otherwise healthy young man with his future ahead of him.

Please help us honor his memory by getting your flu vaccine today.

**#4BRENT**

CLARK PEDIATRICS

Norton Healthcare and LifePoint Health

# Educate & Inform - Protect Public Health

Studies show that if health care workers get vaccinated, influenza related deaths can be **decreased** in hospitals by 40%

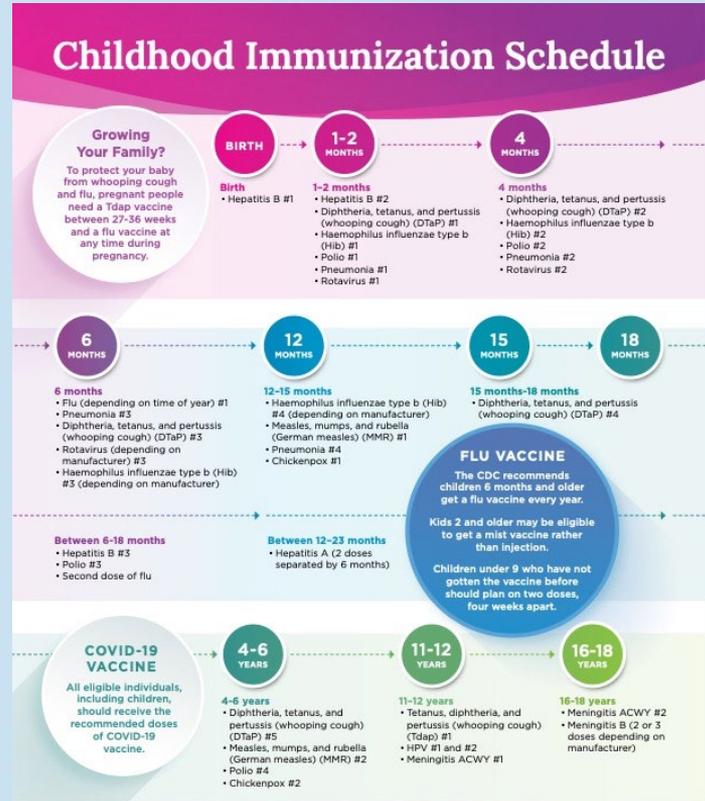
Vaccines are the **most** effective public health measure for all individuals.

- The Influenza vaccine is 70-90% effective in healthy people 65 yrs old and younger
- Elderly and immunocompromised individuals are **especially high risk** and are **least** likely to develop an adequate response to the Influenza vaccine
- Influenza vaccine is only 30-40% effective among the frail elderly making herd immunity very important to protect them



# Increase Vaccination Awareness

- Educate
- Share resources
  - CDC
  - AAP
  - Immunization Schedule



# Vaccinate, Test, and Treat

- Influenza doesn't discriminate; best prevention is to **vaccinate**
- **Test** if showing influenza-like symptoms
- Rapidly prescribe and administer appropriate antiviral **treatment** to reduce symptom duration and lower risk of complications

## 3 Steps to Fight Flu...

- 1 VACCINATE**  
The best protection is an annual flu vaccine for all people 6 months and older **every year**.  
Flu is especially serious for:
  - Children under 5, especially children under 2
  - Pregnant people
  - People 65+
  - People with asthma, heart disease, or diabetes
- 2 TEST**  
Don't ignore symptoms - ask to get tested for flu. Flu symptoms can look like many other illnesses and testing is the only way to know for certain.  
Knowing which virus is making you sick allows your healthcare provider to give you the best treatment.  

- 3 TREAT**  
If you test positive for flu, antivirals can be prescribed to lessen symptoms and decrease the risk of flu hospitalizations and deaths.  


People who get vaccinated may still get sick with flu, but are less likely to have a serious illness, hospitalization, or death.

To learn more, visit [www.familiesfightingflu.org](http://www.familiesfightingflu.org).

Education is critical to saving lives



# A Patient's Perspective

#1: **WHY** should I care about flu (or another VPD)?

#2: **WHAT** are the real risks to me and my family?

#3: **HOW** can I help protect myself & my family?



- 1) Prior to Covid-19 flu was the deadliest vaccine-preventable disease in the U.S.
- 1) Everyone is at risk from flu, regardless of age, gender, ethnicity, health status, or lifestyle.
- 1) Annual flu vaccination, practice healthy habits (wash hands, wear mask), and seek medical treatment if you do fall ill (e.g., take antivirals).



# Why Should I Care?

- **Get yourself vaccinated and share that action with patients and colleagues**
  - Be an In**FLU**encer!
- **You won't need time off from work due to Influenza**
  - HCW who are vaccinated take 50% fewer sick days
- **You won't need to pay for a doctor visit and medications to treat Influenza**
  - Vaccinated HCW typically have 44% less doctor visits  
Poland et al (2005). Vaccine 23, 2251-2255.
- **You won't need to cancel activities with friends and family because you have Influenza**
  - Vaccinated HCW have 59% less illness during vacation time

*If you won't do it for yourself, do it for those you love and who love you*



# Why Get Vaccinated?

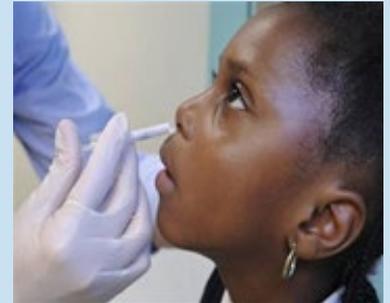
Protect ***Yourself*** from Influenza



Protect your ***Patients***



Protect your ***Family*** and ***Friends***



# FFF Educational Resources Continuously Expanding

## Toolkits

### 3 Steps to Fight Flu...

- 1 VACCINATE**  
The best protection is an annual flu vaccine for all parents & family and every other year.  
Flu is especially serious for:  
- Children under 5, especially children under 2  
- Pregnant people  
- People 65+  
- People with asthma, heart disease, or diabetes
- 2 TEST**  
Don't ignore symptoms - ask to get tested for flu. Flu symptoms can look like many other illnesses and testing is the only way to know for certain.  
Knowing which virus is making you sick allows your healthcare provider to give you the best treatment.
- 3 TREAT**  
If you start practicing for flu, antivirals can be prescribed to lessen symptoms and decrease the risk of hospitalizations and deaths.  
People who get vaccinated may still get sick with flu, but are less likely to have a serious illness, hospitalization, or death.

To learn more, visit [www.familiesfightingflu.org](http://www.familiesfightingflu.org)

## Educational Materials

### DO YOU KNOW the Flu?

Here are three steps to take to help keep your family healthy this flu season...

- 1 Know the Facts**  
Flu is a highly contagious disease that can spread through coughs and sneezes.  
Flu symptoms can look like many other illnesses and testing is the only way to know for certain.
- 2 Form a Flu Vaccination Safety Plan**  
Check your immunization records and make sure you and your family are up to date on all recommended vaccines.  
Check for updates on the CDC website: [www.cdc.gov/vaccines/imz-managers/decision-making/](http://www.cdc.gov/vaccines/imz-managers/decision-making/)
- 3 Practice Healthy Habits, too**  
Wash your hands often and properly.  
Avoid close contact with people who are sick.  
Cover your mouth and nose when you cough or sneeze.  
Avoid touching your eyes, nose, or mouth.  
Stay home when you are sick.  
Avoid sharing personal items like cups, water bottles, and tissues.

Remember: It's Not 'JUST' the Flu - It's a Serious Disease!  
For more information visit: [www.familiesfightingflu.org](http://www.familiesfightingflu.org)

Follow us on [Facebook](#) [Twitter](#) [Instagram](#) [LinkedIn](#)

### Childhood Immunization Schedule

**Birth:** Hepatitis B (1st dose), Hib (1st dose), Polio (1st dose), Rotavirus (1st dose), PCV13 (1st dose), DTaP (1st dose), Hib (2nd dose), Polio (2nd dose), Rotavirus (2nd dose), PCV13 (2nd dose), DTaP (2nd dose)

**1-2 months:** Hib (3rd dose), Polio (3rd dose), Rotavirus (3rd dose), PCV13 (3rd dose), DTaP (3rd dose)

**4 months:** Hib (4th dose), Polio (4th dose), Rotavirus (4th dose), PCV13 (4th dose), DTaP (4th dose)

**6 months:** Hib (5th dose), Polio (5th dose), Rotavirus (5th dose), PCV13 (5th dose), DTaP (5th dose)

**12 months:** Hib (6th dose), Polio (6th dose), Rotavirus (6th dose), PCV13 (6th dose), DTaP (6th dose)

**15 months:** Hib (7th dose), Polio (7th dose), Rotavirus (7th dose), PCV13 (7th dose), DTaP (7th dose)

**18 months:** Hib (8th dose), Polio (8th dose), Rotavirus (8th dose), PCV13 (8th dose), DTaP (8th dose)

**Flu Vaccination:** Annual flu vaccination for all children 6 months and older.

## Spanish

## Social Media

### PROTECT YOUR CHILD FROM THE FLU

There is a **0% CHANCE OF GETTING THE FLU** from the flu vaccine

On average, **80% OF CHILDREN WHO HAVE DIED FROM THE FLU WERE NOT VACCINATED** against influenza

The flu vaccine has a **PROVEN TRACK RECORD**, and has been used in the U.S. since 1945

### Stay Healthy. Stay In The Game.

Everyone six months and older should get a flu vaccine every year.

Flu prevention is a team effort!  
Flu vaccines help keep kids healthy and doing the things they love.

If your child shows symptoms, **GET TESTED FOR FLU**. If positive, your doctor may prescribe that can lessen flu symptoms

### Know the Different Symptoms

Flu			
Fever or chills	Cough	Sore throat	Body aches
COVID-19			
Fever or chills	Cough	New loss of taste or smell	Shortness of breath
Common Cold			
Runny or stuffy nose	Sneezing	Sore throat	Mild to moderate chest discomfort

### Communication 101

Questions About Flu & Flu Vaccination

**I thought the flu isn't serious?**  
Thousands of healthy people die of flu each year. People who are vaccinated are less likely to be hospitalized or die from the flu.

**Why do I need to get a flu vaccine every year?**  
There are many different strains (types of flu) that can make people sick, and these can change from year to year as flu viruses evolve. In order to keep up with this change, flu vaccines are updated annually.

**Can the flu vaccine cause the flu?**  
Absolutely not! The flu vaccine contains a dead (inactivated) or weakened (attenuated) form of the flu virus, or sometimes even so flu virus at all, so it's impossible for it to give you the flu.

**What if I am healthy?**  
Anyone can be affected by flu no matter their age, health status, gender, or lifestyle. Practicing healthy habits is a must, but is not a replacement for annual flu vaccination.

**When should I get myself and my family vaccinated?**  
It takes approximately two weeks following vaccination for your body to build up protection against the flu, so it's ideal to get vaccinated before flu starts spreading. Getting vaccinated any time before or during flu season is better than never.



Available at [FamiliesFightingFlu.org](http://FamiliesFightingFlu.org)

# Additional Information

## CDC Resources

**CDC Influenza site**

**<https://www.cdc.gov/flu/index.htm>**

**Weekly U.S. Influenza Surveillance Report**

**<https://www.cdc.gov/flu/weekly/fluactivitysurv.htm>**



# Q & A



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# Contact Us

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**Visit Families Fighting Flu to Learn More**

**FamiliesFightingFlu.org**

