

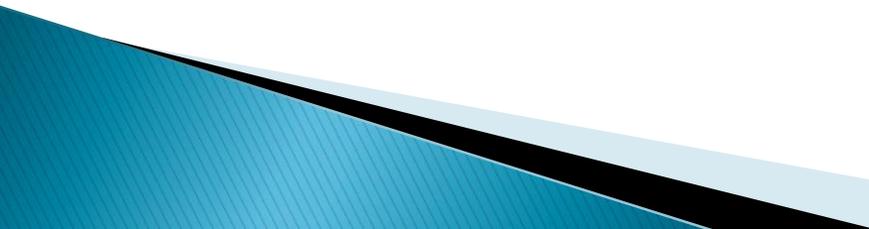
Stop the Spread...Spread the Word



Barbara K. Wolicki, BSN, RN
Nurse Consultant, Division of Immunization
Michigan Department of Community Health
WolickiB@michigan.gov 313-410-9634

Excuses for Not Getting Flu Vaccine

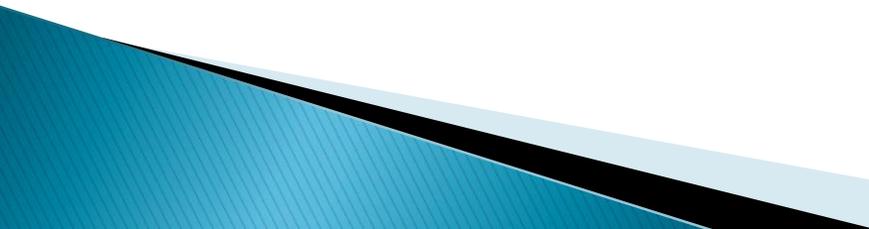
FACTS or Myths?

- ▶ “I got the flu shot once and then still got the flu”
 - ▶ “I got a flu vaccine last year”
 - ▶ “I’m healthy—I don’t need a flu vaccine”
 - ▶ “The flu isn’t so bad, right?”
 - ▶ “I’ll get vaccinated only if my family and friends get ill”
 - ▶ “I don’t trust the vaccine”
 - ▶ “I hate shots”
- 

What is Influenza?

- ▶ Influenza is a contagious respiratory illness caused by influenza viruses
- ▶ Seasonal influenza outbreaks occur every year
- ▶ Rates of serious illness & death are greatest in:
 - Persons aged 65 years and older
 - Children less than 2 years of age
 - Persons (any age) with medical conditions that put them at high risk for complications from influenza
 - Diabetes, heart, lung or kidney conditions

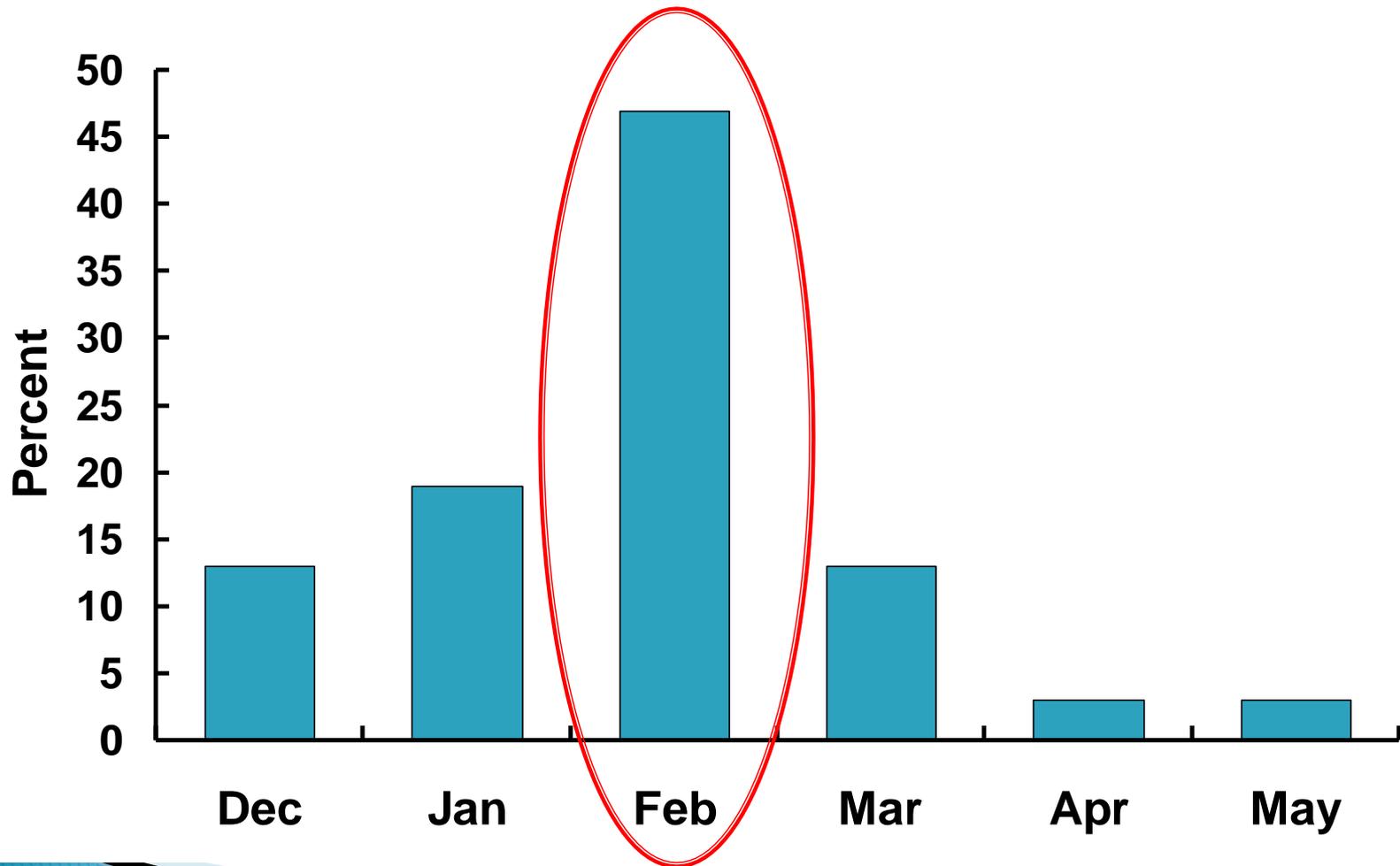
Influenza Disease

- ▶ “Classic” flu symptoms include an abrupt onset of:
 - Fever, chills, muscle aches, headache, nonproductive cough, fatigue, and sore throat
 - ▶ Complications include:
 - Pneumonia, myocarditis, encephalopathy
 - ▶ 5% – 20% of US population infected annually
- 

Facts Related to Influenza Disease

- ▶ Range of 3,000-49,000 (average 23,607) influenza-related deaths annually in the US
- ▶ 90% of flu related deaths are in persons aged 65 years and older
 - Persons aged 85 years/older are 16x more likely to die from flu complications than persons aged 65-69 years
- ▶ Up to 50% of flu infections are asymptomatic
 - Persons who do not have symptoms of illness but are spreading the disease to others
- ▶ Adults can be infectious from the day before symptoms begin through about 5 days after illness onset

Month of Peak Influenza Activity United States, 1976–2008



How Well are We Protected?

U.S. Influenza Vaccination Rates by Age

Aged 6 months -17 years	49.4% ¹
Aged 18-49 years	35.8% ¹
Aged 50-64 years	51.0% ¹
Aged 65 years and older	70.8% ¹

Michigan Influenza Vaccination Rates

Aged 65 years and older	67.5% ²
-------------------------	--------------------

¹Preliminary Results: Influenza vaccination coverage by age group, March National Immunization Survey and National Flu Survey, March 2012

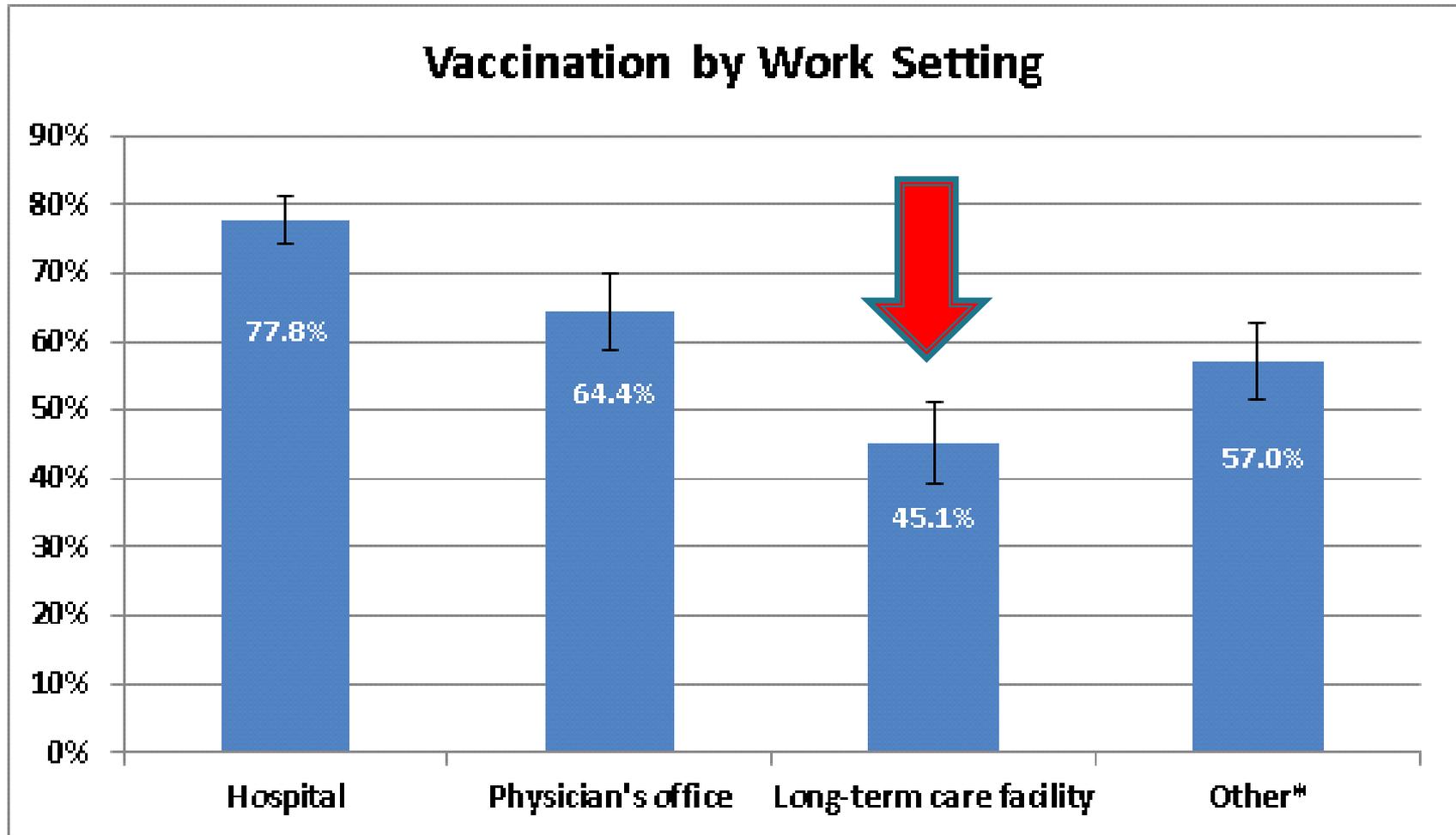
² 2010 Behavioral Risk Factor State Survey data

Health Care Personnel (HCP) & Influenza

- 70% of HCP continue to work despite being ill with flu
- HCP have caused outbreaks among patients in health care settings
- Two studies on influenza
 - Vaccination of HCP was associated with decreased deaths among nursing home patients
 - Hospital-based influenza outbreaks frequently occur where unvaccinated HCP are employed

MMWR 2010/ Vol. 59/No RR-8

HCP Flu Vaccination Internet Panel Survey, U.S., November 2011



"Other" includes settings other than hospitals, physician's offices, or long-term care facilities.

Data from: <http://www.cdc.gov/flu/professionals/vaccination/health-care-personnel.htm#methods>



MMWR™

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Recommendations and Reports

August 6, 2010 / Vol. 59 / No. RR-8

Prevention and Control of Influenza with Vaccines

Recommendations of the Advisory Committee on
Immunization Practices (ACIP), 2010

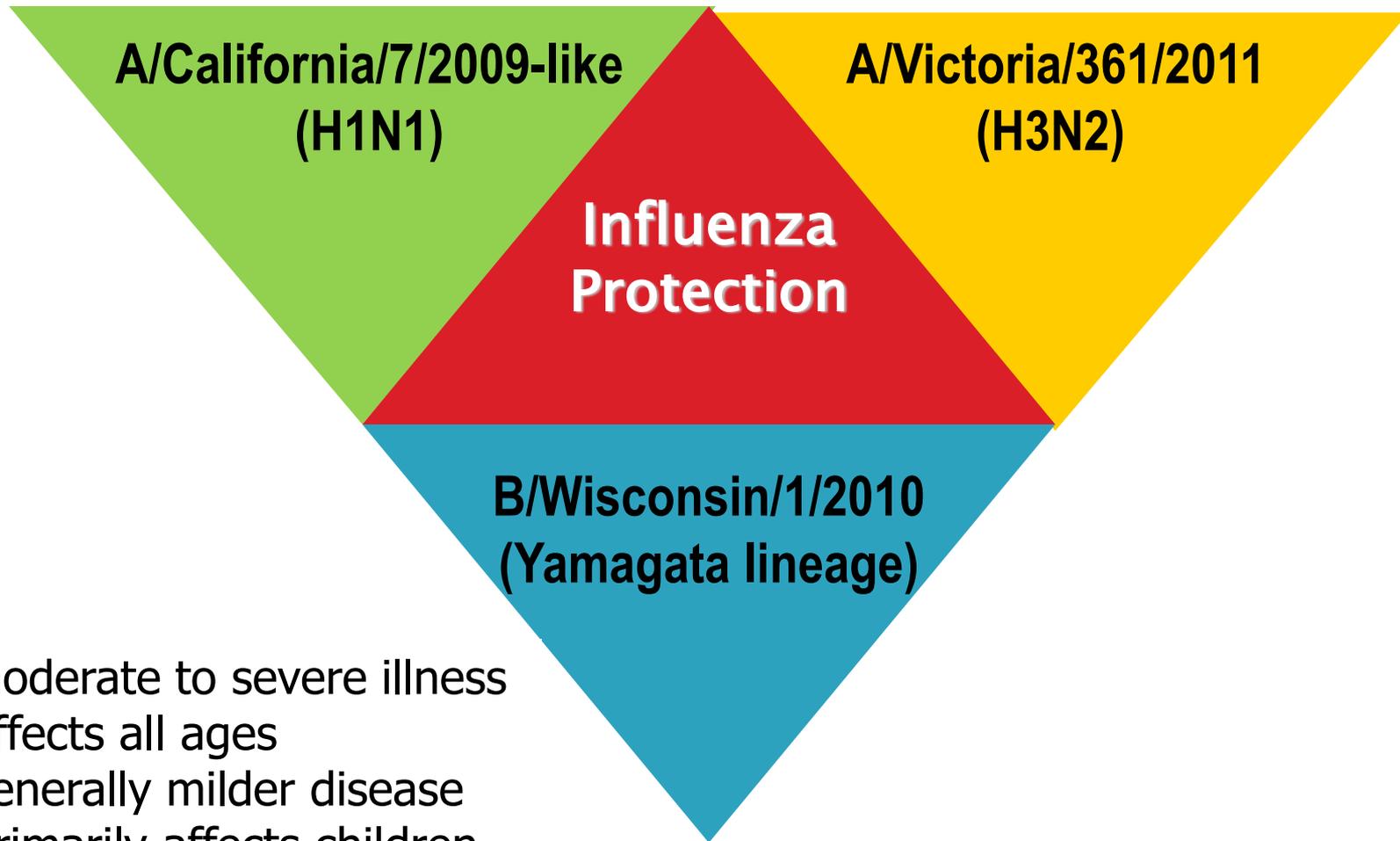


MMWR 2010; Vol. 59/No RR-8

Influenza

“... vaccination is the primary method for preventing influenza and its severe complications.”

2012–2013 Seasonal Flu Vaccine Strains



- Type A = moderate to severe illness affects all ages
- Type B = generally milder disease primarily affects children
- All 3 influenza viral strains are contained in all TIV (shot) and LAIV (nasal spray) vaccines

ACIP Influenza
Recommendation available at
www.cdc.gov/vaccines/recs

Trivalent (Inactivated) Influenza Vaccine (TIV) Recommendations

- ▶ TIV (flu shot) may be given to anyone 6 months of age or older including:
 - HCP working in any area of care
 - Persons who have a medical risk condition
 - i.e., diabetes, asthma, heart, lung or kidney conditions
- ▶ *Given IM annually* prior to and during flu season using the appropriate product based on age
- ▶ May be given at the same time as other vaccines
 - Or any time before or after other vaccines

Live, Attenuated Influenza Vaccine (LAIV) Recommendations

- ▶ LAIV can be given to any person 2-49 years of age, who are healthy and not pregnant
 - Do not give to persons with a high risk medical condition such as asthma or diabetes
- ▶ Exception: household or close contact (including HCP) of persons who are severely immunocompromised and in protective isolation
 - Bone marrow or hematopoietic stem cell transplants

Influenza Vaccine DOES Work

- ▶ Flu vaccine is up to 90% effective in preventing disease in healthy persons younger than 65 years
- ▶ Vaccine efficacy in older persons, age 65 years +
 - 30% to 40% effective in preventing illness
 - 50% to 60% effective in preventing hospitalization
 - 80% effective in preventing death

Yaksich Family Message

▶ Alana's Foundation

- www.alanasfoundation.org

▶ Families Fighting Flu

- 15 videos which include personal stories and powerful messages
<http://www.familiesfightingflu.org/>

Why get a flu vaccine?

Ask the Yaksich family of Michigan.



This year and every year, make sure you and your loved ones are vaccinated against the flu. It could save a life.

Alana's story

On February 2, 2003, 5½-year-old Alana Yaksich spent the day with her parents and brothers watching movies, eating sundaes and playing. Even with a low-grade fever from a recent sore throat, Alana enjoyed the afternoon feeling healthy and surrounded by her family. That evening, Alana was rushed to the emergency room when her fever increased to 106 degrees. Within 24 hours of arriving at the local hospital, Alana died of flu-related complications that caused swelling and injury to her brain.

Flu is a serious disease that can be prevented through vaccination. Annually an average of 20,000 young children are hospitalized because of the flu.

In a recent mild flu season, 120 children in the United States died of the flu, of which half were previously healthy, just like Alana.



www.michigan.gov/immunize

No More Excuses You Need a Flu Vaccine

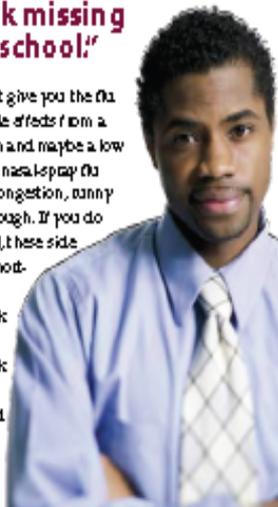
"Oh, the flu isn't
so bad...right?"

Wrong. The flu (influenza) is a contagious disease which affects the lungs and can lead to serious illness, including pneumonia. While pregnant women, young children, older people, and people with certain chronic medical conditions like asthma, diabetes and heart disease are at increased risk of serious flu-related complications, even *healthy* people can get sick enough to miss work or school for a significant amount of time or even be hospitalized.



"But the flu vaccine
makes me sick?
I can't risk missing
work or school!"

The flu vaccine cannot give you the flu. The most common side effects from a flu shot are a sore arm and maybe a low fever or aches. The nasal spray flu vaccine might cause congestion, runny nose, sore throat, or cough. If you do experience them at all, these side effects are mild and short-lived. And that's much better than getting sick and missing several days of school or work or possibly getting a very severe illness and needing to go to the hospital.



"It's
too late
for me to get protection from
a flu vaccination this season."

Flu seasons are unpredictable. They can begin early in the fall and last late into the spring. As long as flu season isn't over, it's not too late to get vaccinated, even during the winter. Getting a flu vaccine is the best way to protect yourself and your family. If you miss getting your flu vaccine in the fall, make it a New Year's resolution—flu season doesn't usually peak until January or February and can last until May. The flu vaccine offers protection for you all season long.



"I'll get vaccinated only if my
family and friends
get sick with flu."

If you wait until people around you get sick from flu, it will probably be too late to protect yourself. It takes about two weeks for the flu vaccine to provide full protection, so the sooner you get vaccinated, the more likely it is that you will be fully protected once the flu begins to circulate in your community. Flu vaccines are easy to find. They are offered in various locations like your doctor's office, chain pharmacies, grocery stores, and health clinics.



"I hate
shots."

The very minor pain of a flu shot is nothing compared to the suffering that can be caused by the flu. The flu can make you very sick for several days, send you to the hospital, or worse. For most healthy, non-pregnant people ages 2 through 49 years old, the nasal spray flu vaccine is a great choice for people who don't like shots. Either way, a shot or spray can protect you from catching the flu. So, whatever little discomfort you feel from the minor side effects of the flu vaccine is worthwhile to avoid the flu.



"I got a
flu vaccine last year,
so I don't need another one!"

Your body's level of immunity from a vaccine received last season is expected to have declined. You may not have enough immunity to be protected from getting sick this season. You should get vaccinated again to protect yourself against the three viruses that research suggests are likely to circulate again this season.



"Wait a minute
I got a flu vaccine
once and still got sick."

Even if you got a flu vaccine, there are still reasons why you might have felt flu-like symptoms:

- You may have been exposed to a non-flu virus before or after you got vaccinated. The flu vaccine can only prevent illnesses caused by flu viruses. It cannot protect against non-flu viruses.
- Or you might have been exposed to flu after you got vaccinated but *before* the vaccine took effect. It takes about two weeks after you receive the vaccine for your body to build protection against the flu.
- Or you may have been exposed to an influenza virus that was very different from the viruses included in that year's vaccine. The flu vaccine protects against the three influenza viruses that research indicates will cause the most disease during the upcoming season, but there can be other flu viruses circulating.



"I'm Healthy
I don't need a flu vaccine!"

Anyone can become sick with the flu and experience serious complications. Older people, young children, pregnant women and people with medical conditions like asthma, diabetes, heart disease, or kidney disease are at especially high risk from the flu, but kids, teens and adults who are active and healthy can get the flu and become very ill from it. Flu viruses are unpredictable, and every season puts you at risk. Besides, you might be around someone who is at high risk from the flu...a baby...your grandparents, or even a friend. *Do you want to be the one spreading flu, do you?*



"I don't trust that
the vaccine is safe."

Flu vaccines have been given for more than 30 years and they have a very good safety track record. Flu vaccines are made the same way each year and their safety is closely monitored by the Centers for Disease Control and Prevention and the Food and Drug Administration. Hundreds of millions of flu vaccines have been given safely.



For more information, visit
<http://www.flu.gov>
<http://www.cdc.gov/flu>
or call
800-CDC-INFO



Pneumococcal Disease

- ▶ Causes pneumonia, meningitis, bacteremia
- ▶ Pneumococcal pneumonia accounts for:
 - Estimated 175,000 hospitalizations per year
 - Up to 36% of adult community-acquired pneumonia & 50% of hospital-acquired pneumonia
 - Case-fatality rate: 5-7%
 - Significantly higher mortality (death) in persons 65 years/older & in those with certain health conditions
- ▶ Pneumonia is a common complication of Influenza

Conditions Causing Increase Risk for Invasive Pneumococcal Disease

- Risk includes:
 - Decreased immune function
 - Asplenia
 - No spleen or spleen that does not function correctly
 - Chronic heart, pulmonary, liver or renal disease
 - Cigarette smoking
 - Cerebrospinal fluid (CSF) leak

Who Should Receive Pneumococcal Polysaccharide Vaccine?

- ▶ Persons aged ≥ 65 years
- ▶ Persons aged 19-64 years who smoke cigarettes or have asthma
- ▶ Persons aged 2-64 years with certain medical conditions including:
 - Chronic pulmonary, kidney or heart disease
 - Diabetes mellitus; alcoholism
 - Immunosuppression including: HIV, functional or anatomical asplenia, sickle cell, general malignancy

Diabetes added as Risk for Hep B

- ▶ HBV highly contagious & environmentally stable
- ▶ Can be transmitted by medical equipment contaminated with blood not visible to unaided eye
- ▶ **Lapses in infection control** associated with assisted blood glucose monitoring have led to HBV transmission
 - Multi-patient use of finger stick devices designed for single-patient
 - Inadequate disinfection and cleaning of monitors between patients
- ▶ Transmissions have occurred in multiple settings
 - LTC facilities, hospitals, private offices, homes, health fair

Hepatitis B Vaccination

- ▶ All persons with diabetes aged 19 through 59 years should complete a 3-dose hep B series
 - Soon after diagnosis and if not previously vaccinated
- ▶ Providers may consider vaccination for persons aged 60 years or older

Pertussis Disease Reporting

- ▶ Pertussis disease persists across the U.S.
 - 26,000 cases reported so far this year
 - Overall, most cases in last 50 years
 - 13 deaths related (11 infants and 2 toddlers)
- ▶ Confirmed cases in MI
 - June 2012 = 284
 - July 2012 = 389 with one documented infant death
- ▶ Vaccination against pertussis disease is the **best defense** available

Tdap Recommendations

- ▶ Tdap is recommended to be given to all adults aged 19 years and older now
 - Including persons aged 65 years and older
 - Regardless of the interval since their last Td dose
 - If no documentation of a previous dose
- ▶ Persons around with infants less than 12 months should be vaccinated at least 2 weeks before contact

MMWR “Updated Recommendations for Tdap Vaccine in Adults aged 65 Years and Older, ACIP 2012” June 29, 2012 / 61(25) 468-470

Recommended Immunizations for Adults

Then you should get these vaccines:	If you are this age,					
	19 - 21 years	22 - 26 years	27 - 49 years	50 - 59 years	60 - 64 years	65+ years
Influenza (Flu)	Get a flu vaccine every year					
Tetanus, diphtheria, pertussis (Td/Tdap)	Get a Tdap vaccine once, then a Td booster vaccine every 10 years					
Varicella (Chickenpox)	2 doses					
HPV Vaccine for Women	3 doses					
HPV Vaccine for Men	3 doses	3 doses				
Zoster (Shingles)					1 dose	
Measles, mumps, rubella (MMR)	1 or 2 doses			1 or 2 doses		
Pneumococcal (pneumonia)	1 or 2 doses					1 dose
Meningococcal	1 or more doses					
Hepatitis A	2 doses					
Hepatitis B	3 doses					



Boxes this color show that the vaccine is recommended for all adults unless your doctor or nurse tells you that you cannot safely receive the vaccine.



Boxes this color show when the vaccine is recommended for adults with certain risks related to their health, job or lifestyle that put them at higher risk for serious diseases. Talk to your doctor or nurse to see if you are at higher risk.



No recommendation

FOOTNOTES:

(Influenza vaccine) ¹There are four different flu vaccines available—talk to your doctor or nurse about which flu vaccine is right for you.

(HPV vaccine for men) ²There are two different kinds of HPV vaccine but only one HPV vaccine (Gardasil[®]) can be given to men. Gay men or men who have sex with men who are 22 through 26 years old should get HPV vaccine if they haven't already started or completed the series.

(MMR vaccine) ³If you were born in 1957 or after, you should have already gotten MMR vaccine. Talk to your doctor or nurse about how many doses you may need.

If you are traveling outside of the United States, you may need additional vaccines. Ask your doctor or nurse which vaccines you may need.

For more information, call toll free 1-800-CDC-INFO (1-800-232-4636) or visit <http://www.cdc.gov/vaccines>



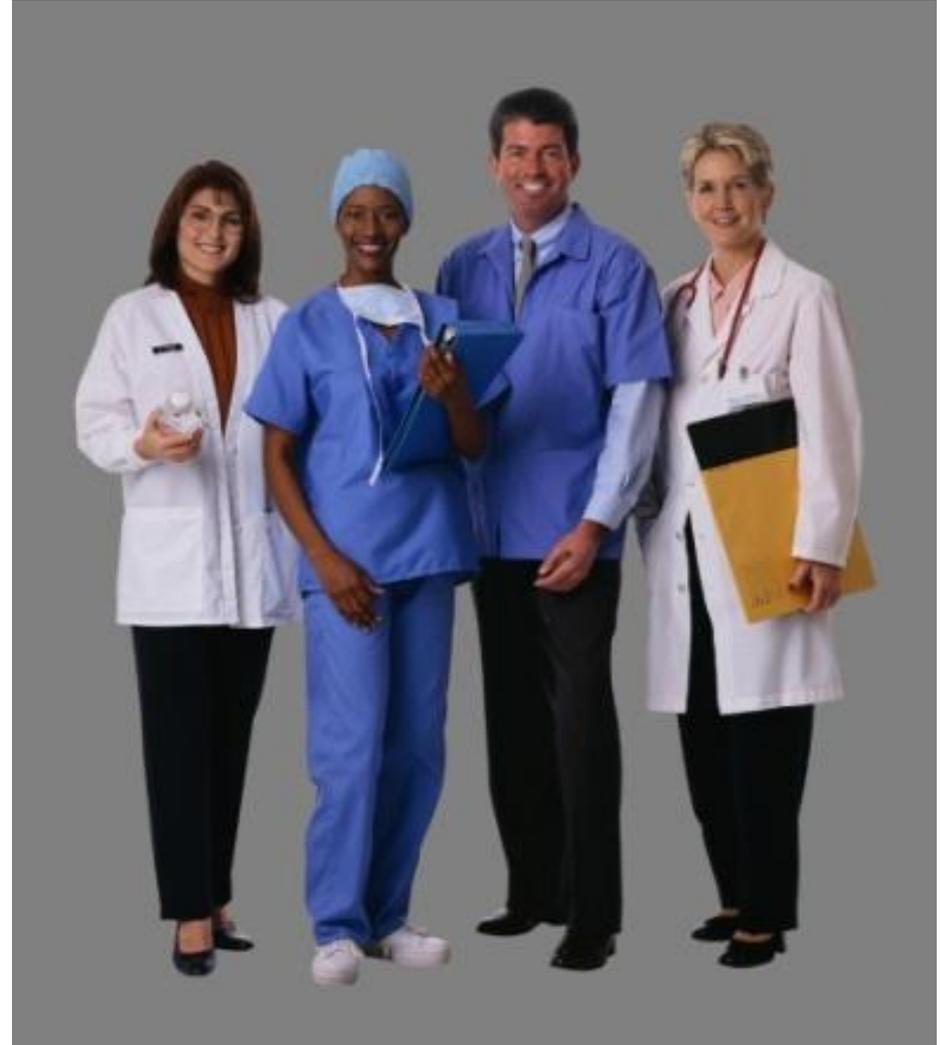
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Copy of 2012 Adult Schedule for Providers can be found at www.cdc.gov/vaccines

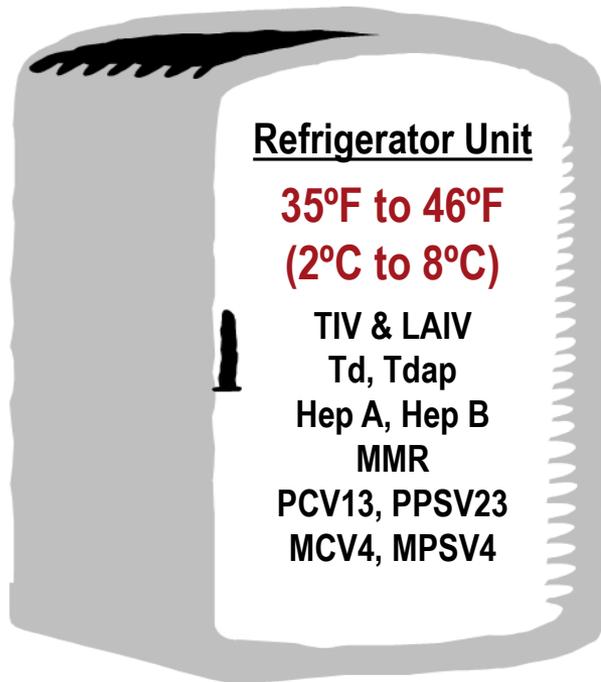
Recommend Flu and Other Vaccines!

Studies consistently show that **provider recommendation** is the strongest predictor of influenza vaccination

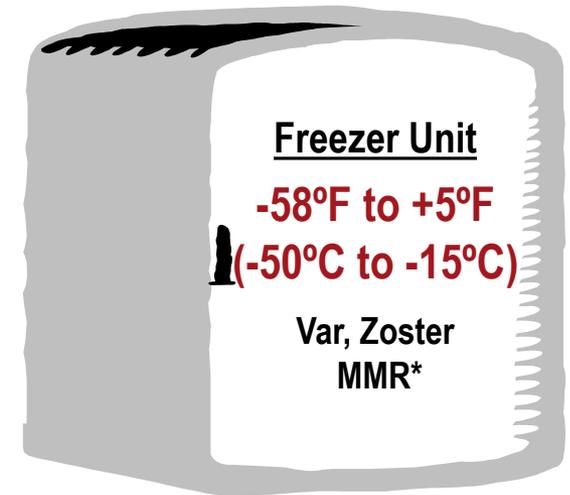
Adults who are initially reluctant, are likely to receive an influenza vaccination when the **health care provider's opinion of the vaccine is positive**



Vaccine Storage



Separate
stand-alone
storage units
are strongly
recommended



- ▶ Alternative to using 2 stand-alone units:
 - Use the refrigerator compartment of a combination refrigerator/freezer unit to store refrigerated vaccines and use a **separate** stand-alone freezer unit to store frozen vaccines
- ▶ **Small single-door (dorm-style) units with a freezer compartment should never be used to store vaccines**
- ▶ Contact your LHD for guidance before purchasing units

*MMR can be stored in freezer or refrigerator.

Key Storage and Handling Practices

- ▶ Place a calibrated, certified thermometer in the center of the storage unit
 - Check & record temperatures twice a day (am/pm)
 - Keep temp logs for 3 years
 - If temperatures are out of range, have an emergency response plan ready & take action
- ▶ Keep vaccines in original boxes with tops on
- ▶ Clearly label vaccine boxes to prevent errors
- ▶ Check and rotate vaccines at least once a week
 - Use vaccine that will expire first!

Safety Considerations

- ▶ When administering **any vaccine**, clinical staff need to be prepared for an emergency situation
- ▶ Steps to take
 - All staff should be CPR-trained
 - The clinic's emergency plan is know by all staff
 - At minimum, epinephrine and equipment to maintain an airway are readily available
- ▶ If a clinically significant adverse event occurs after vaccine administration, fill out VAERS report (Vaccine Adverse Event Reporting System) at www.vaers.hhs.gov

Utilize the Michigan Care Improvement Registry (MCIR)

- ▶ All vaccines administered to your clients should be recorded in MCIR
- ▶ Allows **all** providers with access to view a person's immunization record
 - HIPPA compliant
- ▶ Decrease over-immunization and missed opportunities to vaccinate—use MCIR!
- ▶ Visit www.mcir.org

Be Protected!

- ▶ Several vaccines are recommended for Health Care Personnel
 - Hepatitis B
 - Influenza
 - MMR
 - measles, mumps, rubella
 - Varicella
 - chickenpox
 - Tdap/Td

Healthcare Personnel Vaccination Recommendations¹

Vaccine	Recommendations in brief
Hepatitis B	Give 3-dose series (dose #1 now, #2 in 1 month, #3 approximately 5 months after #2). Give IM. Obtain anti-HBs serologic testing 1–2 months after dose #3.
Influenza	Give 1 dose of influenza vaccine annually. Give inactivated injectable influenza vaccine intramuscularly or live attenuated influenza vaccine (LAIV) intranasally.
MMR	For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below. Give SC.
Varicella (chickenpox)	For HCP who have no serologic proof of immunity, prior vaccination, or history of varicella disease, give 2 doses of varicella vaccine, 4 weeks apart. Give SC.
Tetanus, diphtheria, pertussis	Give a one-time dose of Tdap as soon as feasible to all HCP who have not received Tdap previously. Give Td boosters every 10 years thereafter. Give IM.
Meningococcal	Give 1 dose to microbiologists who are routinely exposed to isolates of <i>N. meningitidis</i> . Give IM or SC.

Hepatitis A, typhoid, and polio vaccines are not routinely recommended for HCP who may have on-the-job exposure to fecal material.

Hepatitis B

Healthcare personnel (HCP) who perform tasks that may involve exposure to blood or body fluids should receive a 3-dose series of hepatitis B vaccine at 0-, 1-, and 6-month intervals. Test for hepatitis B surface antibody (anti-HBs) to document immunity 1–2 months after dose #3.

- If anti-HBs is at least 10 mIU/mL (positive), the patient is immune. No further serologic testing or vaccination is recommended.
- If anti-HBs is less than 10 mIU/mL (negative), the patient is unprotected from hepatitis B virus (HBV) infection; revaccinate with a 3-dose series. Re-test anti-HBs 1–2 months after dose #3.
 - If anti-HBs is positive, the patient is immune. No further testing or vaccination is recommended.
 - If anti-HBs is negative after 6 doses of vaccine, patient is a non-responder.

For non-responders: HCP who are non-responders should be considered susceptible to HBV and should be counseled regarding precautions to prevent HBV infection and the need to obtain HBIG prophylaxis for any known or probable parenteral exposure to hepatitis B surface antigen (HBsAg)-positive blood.² It is also possible that non-responders are persons who are HBsAg positive. Testing should be considered. HCP found to be HBsAg positive should be counseled and medically evaluated.

Note: Anti-HBs testing is not recommended routinely for previously vaccinated HCP who were not tested 1–2 months after their original vaccine series. These HCP should be tested for anti-HBs when they have an exposure to blood or body fluids. If found to be anti-HBs negative, the HCP should be treated as if susceptible.²

Influenza

All HCP, including physicians, nurses, paramedics, emergency medical technicians, employees of nursing homes and chronic care facilities, students in these professions, and volunteers, should receive annual vaccination against influenza. Live attenuated influenza vaccine (LAIV) may only be given to non-pregnant healthy HCP age 49 years and younger. Inactivated injectable influenza vaccine (TIV) is preferred over LAIV for HCP who are in close contact with severely immunosuppressed persons (e.g., stem cell transplant patients) when patients require protective isolation.

Measles, Mumps, Rubella (MMR)

HCP who work in medical facilities should be immune to measles, mumps, and rubella.

- HCP born in 1957 or later can be considered immune to measles, mumps, or rubella only if they have documentation of (a) laboratory confirmation of disease or immunity or (b) appropriate vaccination against measles, mumps, and rubella (i.e., 2 doses of live measles and mumps vaccines given on or after the first birthday and separated by 28 days or more, and at least 1 dose

of live rubella vaccine). HCP with 2 documented doses of MMR are not recommended to be serologically tested for immunity; but if they are tested and results are negative or equivocal for measles, mumps, and/or rubella, these HCP should be considered to have presumptive evidence of immunity to measles, mumps, and/or rubella and are not in need of additional MMR doses.

- Although birth before 1957 generally is considered acceptable evidence of measles, mumps, and rubella immunity, healthcare facilities should consider recommending 2 doses of MMR vaccine routinely to unvaccinated HCP born before 1957 who do not have laboratory evidence of disease or immunity to measles and/or mumps, and should consider one dose of MMR for HCP with no laboratory evidence of disease or immunity to rubella. For these same HCP who do not have evidence of immunity, healthcare facilities should recommend 2 doses of MMR vaccine during an outbreak of measles or mumps and 1 dose during an outbreak of rubella.

Varicella

It is recommended that all HCP be immune to varicella. Evidence of immunity in HCP includes documentation of 2 doses of varicella vaccine given at least 28 days apart, history of varicella or herpes zoster based on physician diagnosis, laboratory evidence of immunity, or laboratory confirmation of disease.

Tetanus/Diphtheria/Pertussis (Td/Tdap)

All HCPs who have not or are unsure if they have previously received a dose of Tdap should receive a one-time dose of Tdap as soon as feasible, without regard to the interval since the previous dose of Td. Then, they should receive Td boosters every 10 years thereafter.

Meningococcal

Vaccination is recommended for microbiologists who are routinely exposed to isolates of *N. meningitidis*. Use of MCV4 is preferred for persons age 55 years or younger; give IM. Use MPSV4 only if there is a permanent contraindication or precaution to MCV4. Use of MPSV4 (not MCV4) is recommended for HCP older than age 55; give SC.

References

1. CDC. Immunization of Health-Care Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*, 2011; 60(RR-7).
2. See Table 3 in "Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis." *MMWR*, 2001; 50(RR-11).

For additional specific ACIP recommendations, refer to the official ACIP statements published in *MMWR*. To obtain copies, visit CDC's website at www.cdc.gov/vaccines/pubs/ACIP-list.htm; or visit the Immunization Action Coalition (IAC) website at www.immunize.org/acip.

Adapted from the Michigan Department of Community Health

www.immunize.org/calp/cip0017.pdf • Item #P2017 (2/12)

Technical content reviewed by the Centers for Disease Control and Prevention.

Resources

- ▶ Vaccine information, handouts, posters:
 - www.michigan.gov/immunize
 - www.cdc.gov/vaccines
 - www.aimtoolkit.org
 - www.immunize.org
 - www.mcir.org

- ▶ For ongoing influenza updates:
 - www.michigan.gov/flu
 - www.cdc.gov/flu