



**Department
of Health**

Adult Immunization Updates

**Diana Joyce, RN MPA BSN
NYSDOH
Bureau of Immunization
May 2016**

Vaccines Are For Adults Too!

Objectives

- Review of Adult Immunization Schedule
- Overview of Tdap vaccine for adults, including pregnant women
- Pneumococcal vaccines algorithm review
- Seasonal influenza vaccine review
- Identify Healthcare Worker vaccines

ACIP Recommended Adult Immunization Schedules 2016

- Adult: 19 years of age and older
 - Age based recommendations
 - Risk conditions
 - Updated and published annually
 - Published concurrently by: ACIP, AAFP and ACOG
 - Available at www.cdc.gov/vaccines



What Vaccines Should Adults Receive?

Recommended Adult Immunization Schedule—United States, 2016
 Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Figure 1. Recommended immunization schedule for adults aged 19 years or older, by vaccine and age group¹

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥65 years
Influenza ^{1,2}		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap) ^{1,3}		Substitute Tdap for Td once, then Td booster every 10 yrs					
Varicella ^{1,4}		2 doses					
Human papillomavirus (HPV) Female ^{1,5}		3 doses					
Human papillomavirus (HPV) Male ^{1,5}		3 doses					
Zoster ⁶						1 dose	
Measles, mumps, rubella (MMR) ^{1,7}		1 or 2 doses depending on indication					
Pneumococcal 13-valent conjugate (PCV13) ^{1,4}						1 dose	
Pneumococcal 23-valent polysaccharide (PPSV23) ⁸				1 or 2 doses depending on indication			1 dose
Hepatitis A ^{1,9}				2 or 3 doses depending on vaccine			
Hepatitis B ^{1,10}				3 doses			
Meningococcal 4-valent conjugate (MenACWY) or polysaccharide (MPSV4) ^{1,11}				1 or more doses depending on indication			
Meningococcal B (MenB) ¹¹				2 or 3 doses depending on vaccine			
<i>Haemophilus influenzae</i> type b (Hib) ^{1,12}				1 or 3 doses depending on indication			

* Covered by the Vaccine Injury Compensation Program

-  Recommended for all persons who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection; zoster vaccine is recommended regardless of past episode of zoster
-  Recommended for persons with a risk factor (medical, occupational, lifestyle, or other indication)
-  No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, NW, Washington, DC 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m.–8:00 p.m. Eastern Time, Monday–Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG), and American College of Nurse-Midwives (ACNM).



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Adult Immunization Schedule Based on Medical Condition

VACCINE ▼	INDICATION ►	Pregnancy	Immuno-compromising conditions (excluding HIV infection) ^{4,4,7,8,11}	HIV infection CD4+ count (cells/ μ L) ^{4,6,7,8,11}		Men who have sex with men (MSM)	Kidney failure, end-stage renal disease, on hemodialysis	Heart disease, chronic lung disease, chronic alcoholism	Asplenia and persistent complement component deficiencies ^{8,11,12}	Chronic liver disease	Diabetes	Healthcare personnel	
				< 200	\geq 200								
Influenza ²													1 dose annually
Tetanus, diphtheria, pertussis (Td/Tdap) ³		1 dose Tdap each pregnancy											Substitute Tdap for Td once, then Td booster every 10 yrs
Varicella ⁴			Contraindicated										2 doses
Human papillomavirus (HPV) Female ⁵				3 doses through age 26 yrs									3 doses through age 26 yrs
Human papillomavirus (HPV) Male ⁵				3 doses through age 26 yrs									3 doses through age 21 yrs
Zoster ⁶			Contraindicated										1 dose
Measles, mumps, rubella (MMR) ⁷			Contraindicated										1 or 2 doses depending on indication
Pneumococcal 13-valent conjugate (PCV13) ⁸													1 dose
Pneumococcal polysaccharide (PPSV23) ⁹													1, 2, or 3 doses depending on indication
Hepatitis A ⁹													2 or 3 doses depending on vaccine
Hepatitis B ^{9,10}													3 doses
Meningococcal 4-valent conjugate (MenACWY) or polysaccharide (MPSV4) ¹¹													1 or more doses depending on indication
Meningococcal B (MenB) ¹¹													2 or 3 doses depending on vaccine
<i>Haemophilus influenzae</i> type b (Hib) ¹²				3 doses post-HSCT recipients only									1 dose

Covered by the Vaccine Injury Compensation Program
 Recommended for persons with a risk factor (medical, occupational, lifestyle, or other indication)
 No recommendation
 Contraindicated



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These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly recommended for adults aged \geq 19 years, as of February 2016. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/hcp/acip-recs/index.html). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

CDC Immunization Schedule:

<http://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule.pdf>



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Tdap, Pneumococcal, and Flu Vaccines

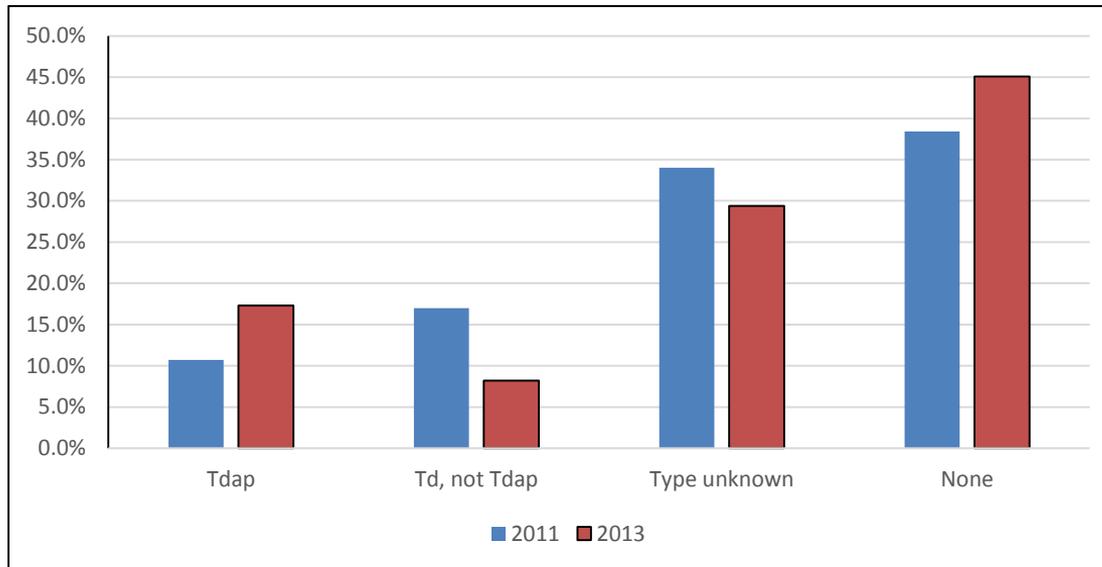


Tdap

Tdap Vaccine

- All adults unvaccinated for Tdap need a booster

BRFSS Tdap Data for Adults in NYS with a Tetanus-Containing Vaccine



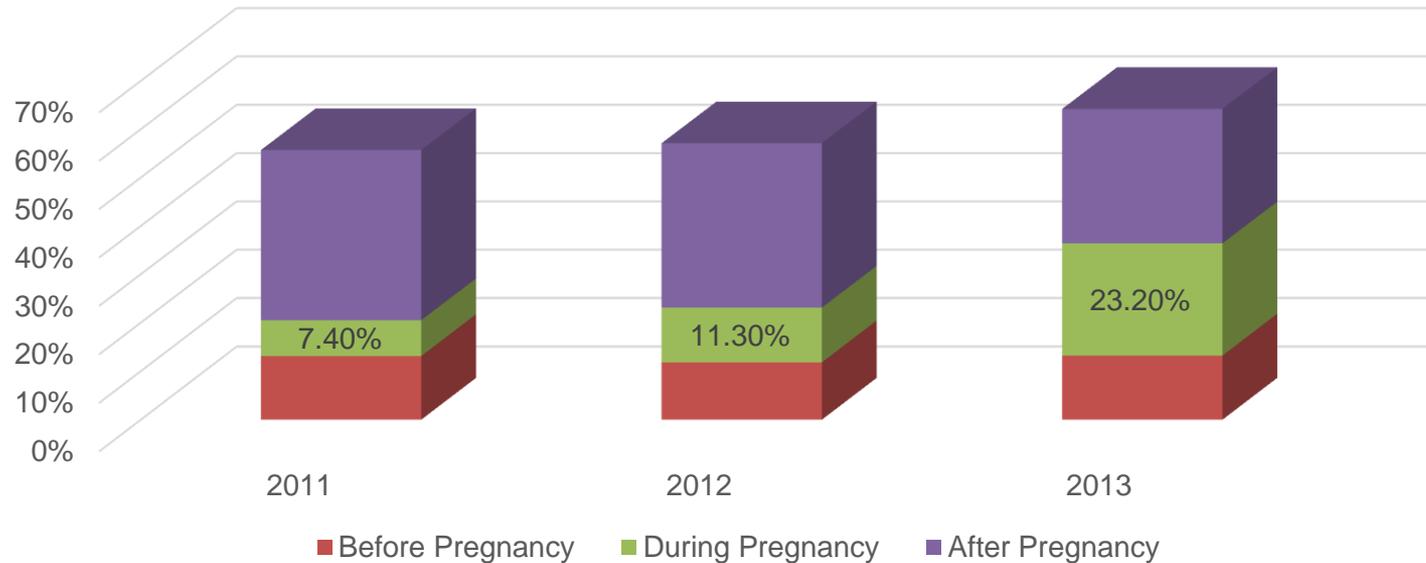
Tdap Vaccination During Pregnancy

- Advisory Committee on Immunization Practice (ACIP) recommends everyone unvaccinated with Tdap to receive a dose if expected to be around infants < 12 months (cocooning)
- 2011 ACIP recommended Tdap vaccine for pregnant women
- February 2013 ACIP updated this recommendation for Tdap be given to women in every pregnancy
- Optimal range is 27-36 weeks gestation
- Studies have determined higher levels of IgG to pertussis in newborn umbilical cord blood when immunized between 27-36 weeks gestation



NYS PRAMS Tdap Data

Tdap vaccine coverage among mothers with a recent live birth, PRAMS, NYS excluding NYC, 2011-2013

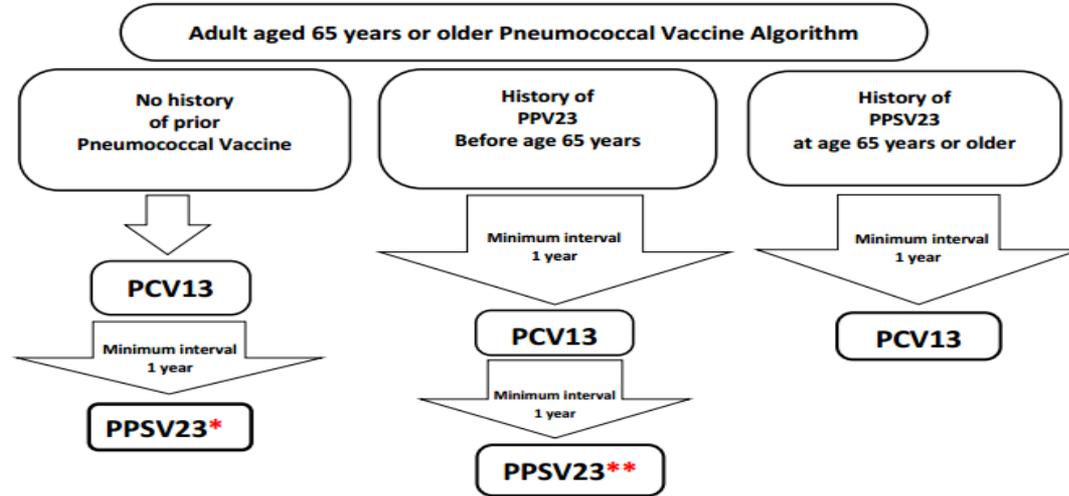


Pneumococcal

Pneumococcal Vaccines

- Two types:
 - Pneumococcal Polysaccharide Vaccine (PPSV23)
 - Pneumococcal Conjugate Vaccine (PCV13)
- Recommended for all adults over age 65
- Adults age 19-64 with special medical considerations
 - ✓ 1 dose of PCV13
 - ✓ 1, 2, or 3 doses of PPSV23 (depending on medical indication)

Pneumococcal Algorithm



IF PCV 13 was given before age 65 years no further doses of PCV13 are needed

* For adults age 65 years and older with immunocompromising conditions, functional or anatomic asplenia, cerebrospinal fluid leaks, or cochlear implants, the interval between PCV13 and PPSV23 should be shortened to 8 weeks

** If patient received PPSV23 in the past:

-WAIT 5 years after first PPSV23 dose to administer second PPSV23

- PCV13 and PPSV 23 should not be administered during same visit.
- If a dose of PPSV23 is given earlier than the recommended interval, the dose does not need to be repeated.
- When pneumococcal vaccination history is incomplete or unknown, it is acceptable to rely on the patient's verbal history to determine prior vaccination status. Providers should NOT delay immunization due to a lack of an immunization record.

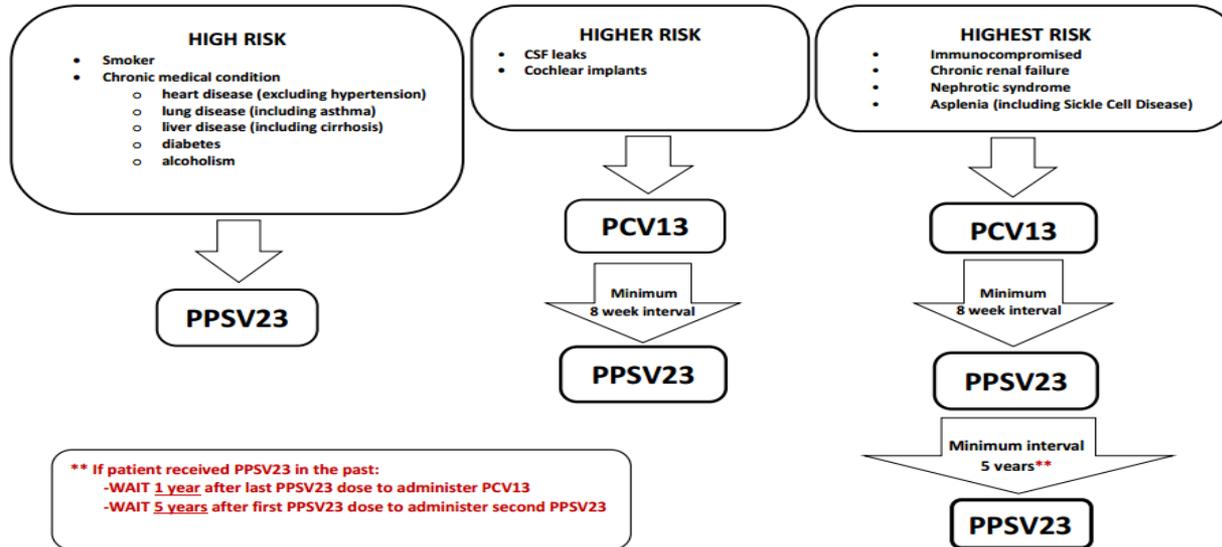
Created February 27, 2015



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Pneumococcal Algorithm

Adult aged 19-64 years Pneumococcal Vaccine Algorithm



- PCV13 and PPSV 23 should not be administered during same visit.
- When pneumococcal vaccination history is incomplete or unknown, it is acceptable to rely on the patient's verbal history to determine prior vaccination status. Providers should NOT delay immunization due to a lack of an immunization record.

Created February 27, 2015



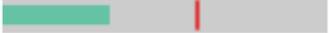
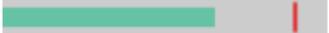
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Pneumococcal Vaccine- Risk (19-64 years)

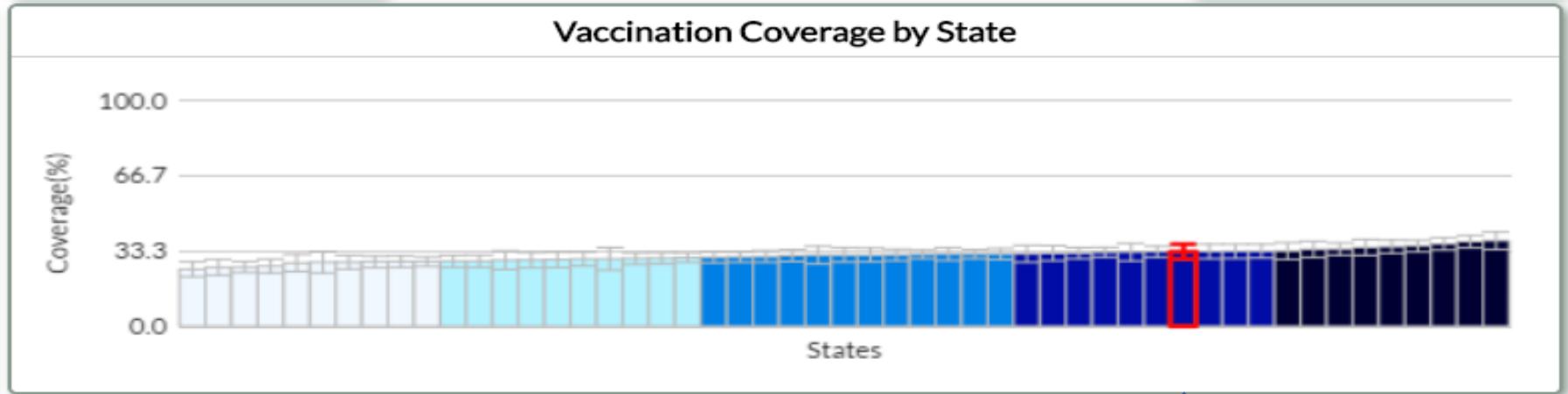
- **High**
 - Chronic conditions:
 - ✓ heart disease (excluding hypertension),
 - ✓ diabetes (excluding gestational diabetes)
 - ✓ lung disease (including asthma)
 - ✓ alcoholism, liver disease (including cirrhosis)
 - Smoker
- **Higher**
 - CSF leaks
 - Cochlear implants
- **Highest**
 - Immunocompromised (including HIV infection)
 - Chronic renal failure
 - Nephrotic syndrome
 - Asplenia



NYS AdultVaxView Pneumococcal Vaccination Rates

Vaccination Coverage for Selected Area(s)					
Vaccinations/Groups	State/Region/U.S.	n	%	CI	Progress Toward Healthy People 2020 (red line)
▼ Pneumococcal Vaccination ▼ Age					
18-64 years at increased risk	New York	1,312	33.0	(±3.3)	0  100
≥65 years	New York	1,862	65.4	(±2.8)	0  100

BRFSS NYS Data 2014 Pneumococcal Vaccine Coverage Age 65 or Older



65.4%
NYS



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Influenza

Influenza Vaccine

According to the CDC:

- 2015/16 flu vaccine effectiveness is around 60%*
 - ✓ 51% VE against H1N1
 - ✓ 76% VE against B Viruses
 - ✓ 79% VE against B/Yamagata lineage
- H1N1(pmd09) current prevalent strain
- As of February 12th 146.3 million vaccine doses distributed

*Based on preliminary data

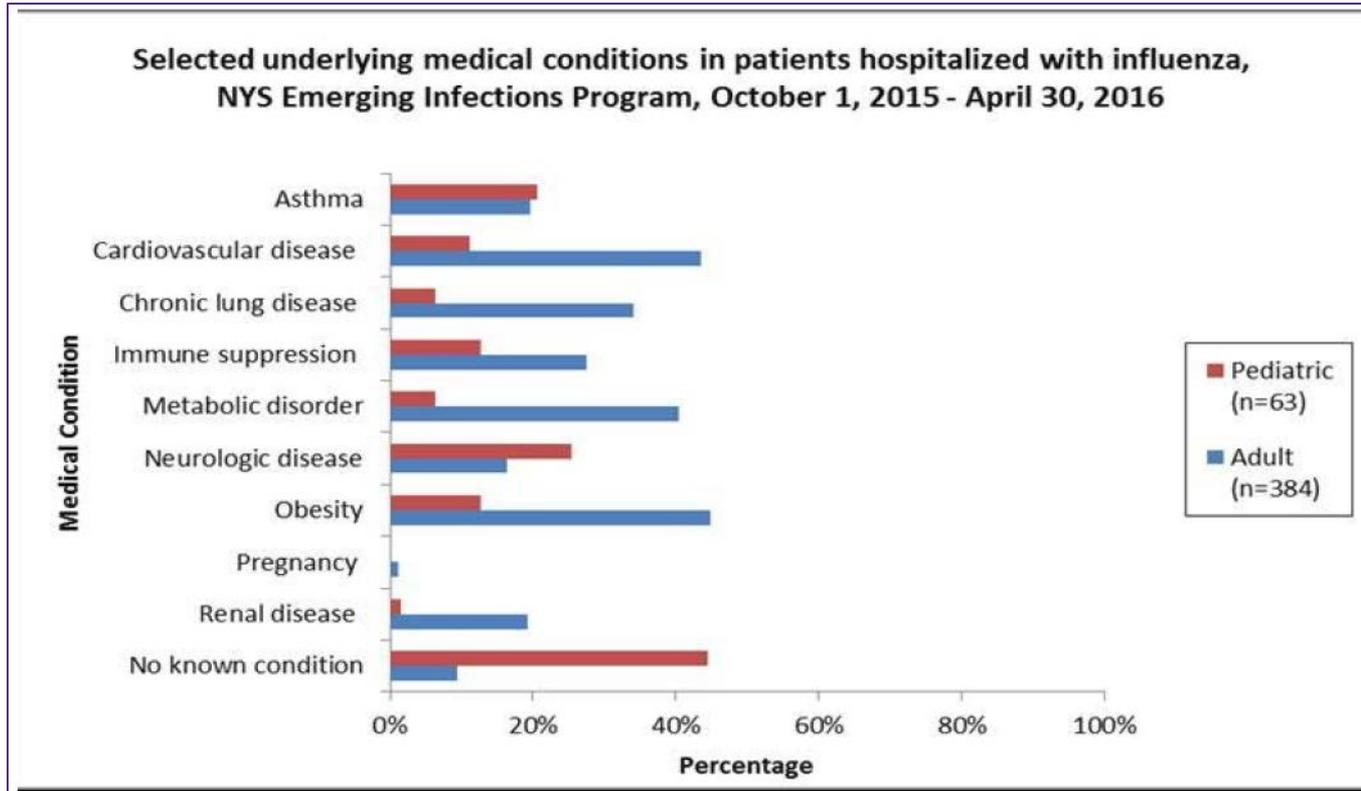
2016/17 Flu Vaccine Strains

- an A/California/7/2009 (H1N1)pdm09-like virus;
- an A/Hong Kong/4801/2014 (H3N2)-like virus;
- a B/Brisbane/60/2008-like virus (B/Victoria lineage)
- Quadrivalent will also contain a B/Phuket/3073/2013-like virus (B/Yamagata lineage)

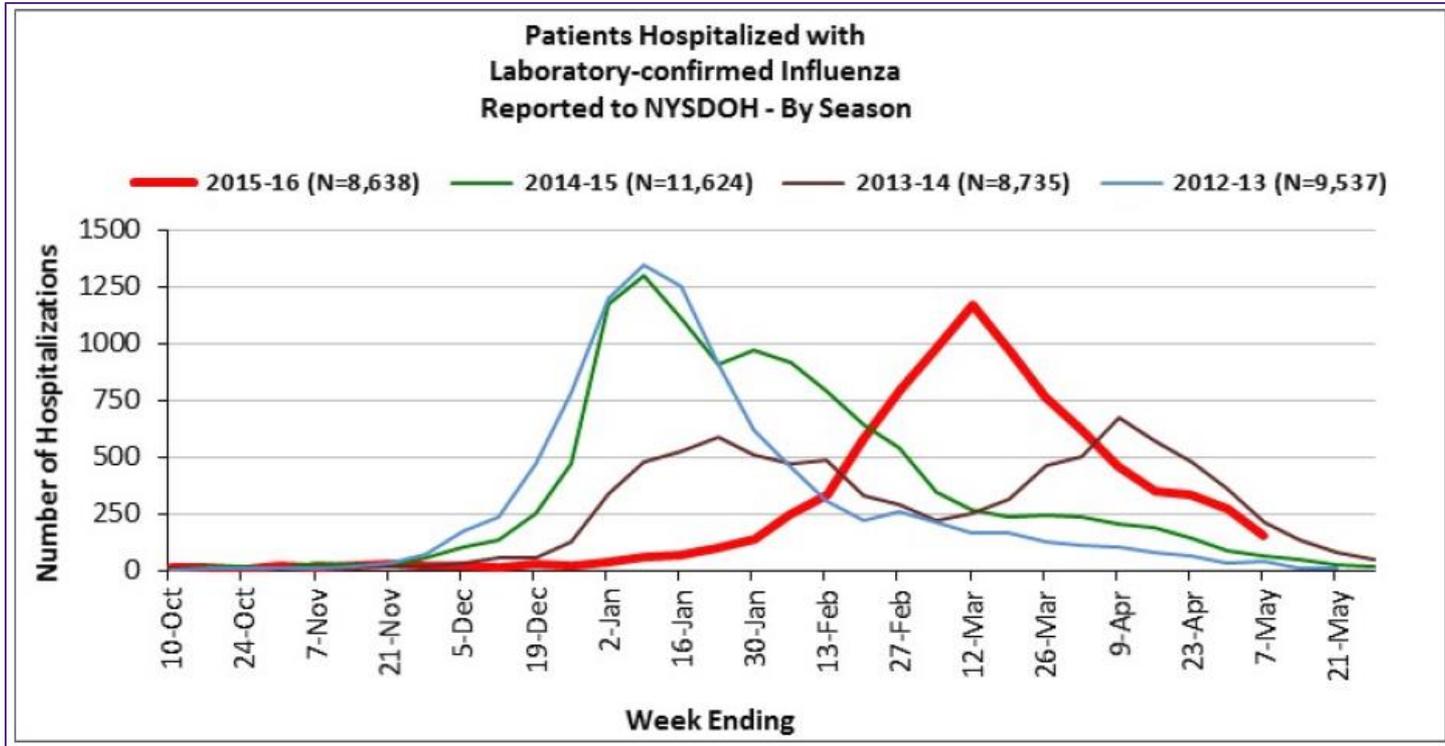


Influenza Hospitalization Surveillance Network (FluSurv-NET)

As part of the CDC's FluSurv-Net, the NYS Emerging Infections Program (EIP) conducts enhanced surveillance for hospitalized cases of laboratory-confirmed influenza among residents of 15 counties. 5 Medical chart reviews are completed, and underlying health conditions noted on all identified cases from October 1 through April 30 of the following year.

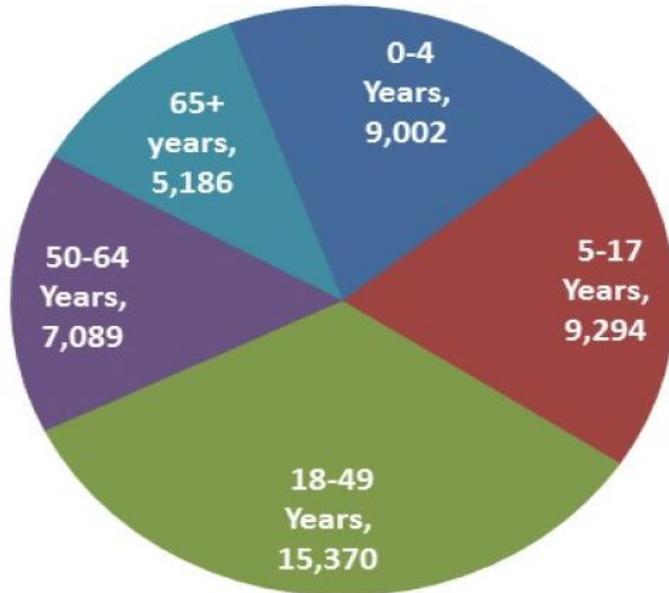


Laboratory Reports of Influenza



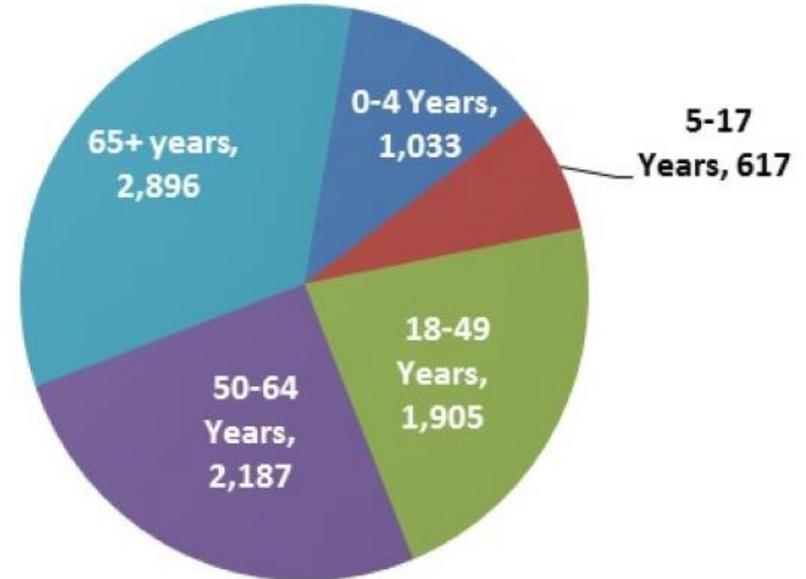
Laboratory Reports of Influenza

Positive Influenza Laboratory Results reported to NYSDOH, By Age Group, 2015-16 Season (N=46,716)



* The totals by age groups excludes 775 cases for which age was not reported.

Patients Hospitalized with Laboratory-confirmed Influenza reported to NYSDOH, By Age Group, 2015-16 Season (N=8,638)

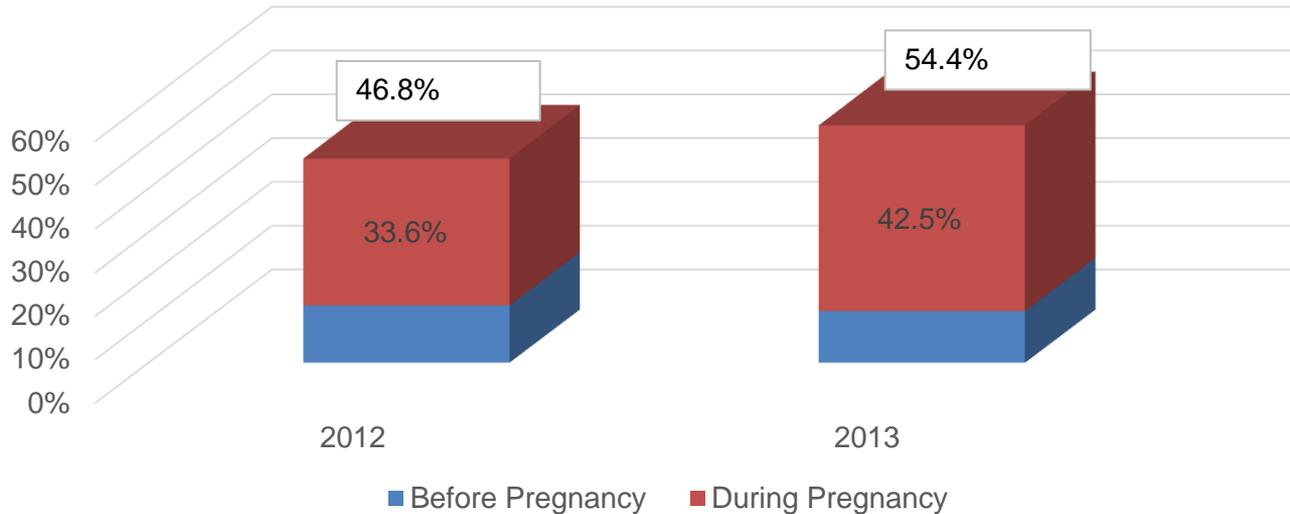


Flu Vaccine for Pregnant Women

- Advisory Committee on Immunization Practices (ACIP) recommends Inactivated Influenza Vaccine (IIV) for pregnant women
- The live flu vaccine(LAIV), which is delivered as a nasal spray, is NOT advised for pregnant women
 - live or inactivated vaccine can be given to a breast feeding mother
- During pregnancy maternal antibodies cross the placenta and provide protection to the newborn
- Influenza vaccine allows the pregnant woman to develop antibodies against the flu that provides protection to the newborn baby for up to 6 months of age

NYS PRAMS Flu Data

Flu vaccine coverage among mothers with a recent live birth, PRAMS, NYS
excluding NYC, 2012-2013



Why are Half of Pregnant Women Unvaccinated for Influenza?

CDC Survey Revealed:

I do not think the vaccination is effective in preventing the flu

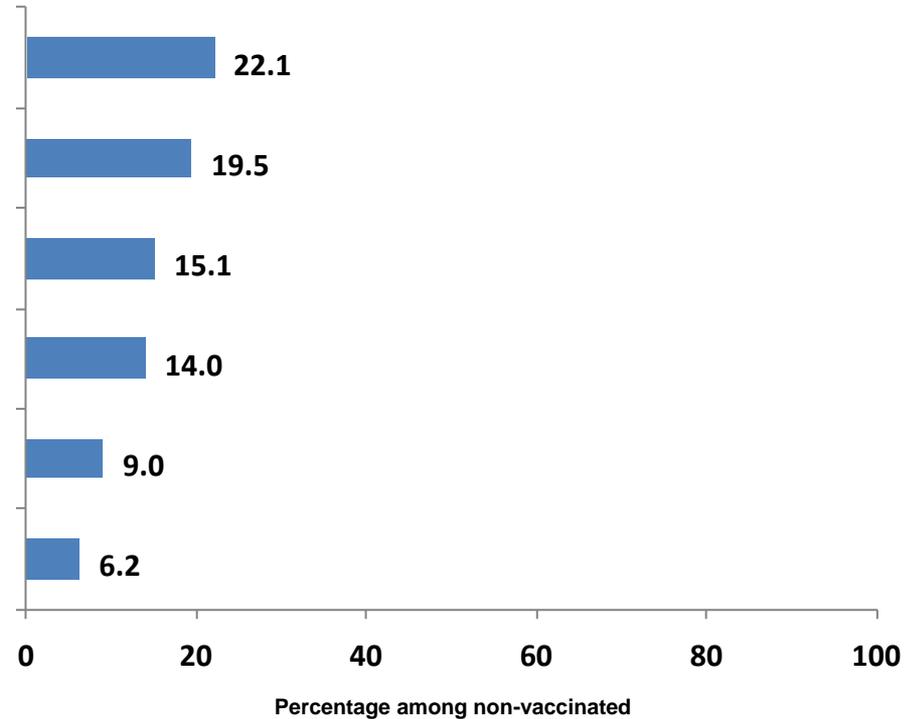
I get sick when I get the vaccination or I'm concerned I might get sick

I am concerned about possible safety risks to my baby if I got vaccinated

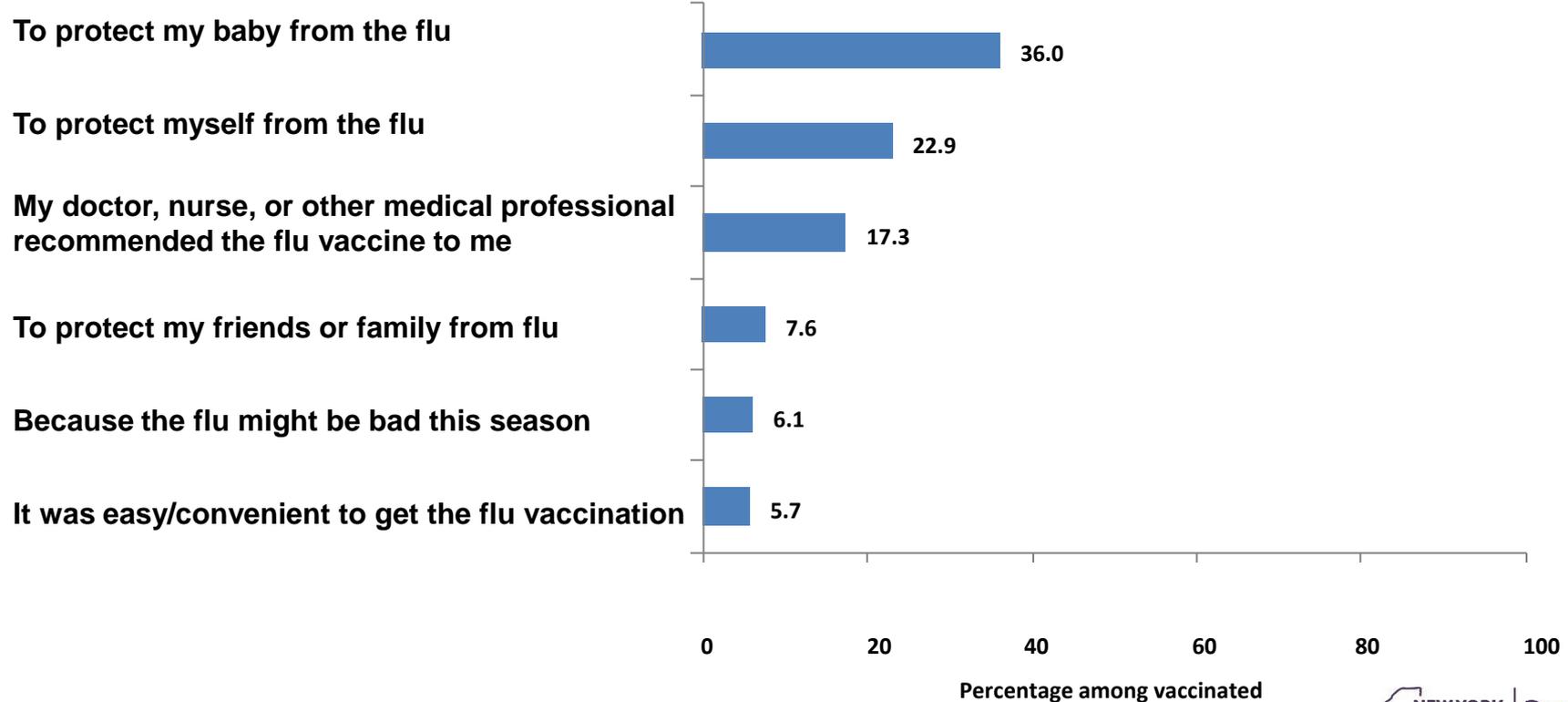
I am concerned about possible safety risks to myself if I got vaccinated

I am not concerned about getting the flu

I do not need the vaccination



Reasons for receiving flu vaccination among pregnant women, Internet panel survey, United States, 2015 (n=850)



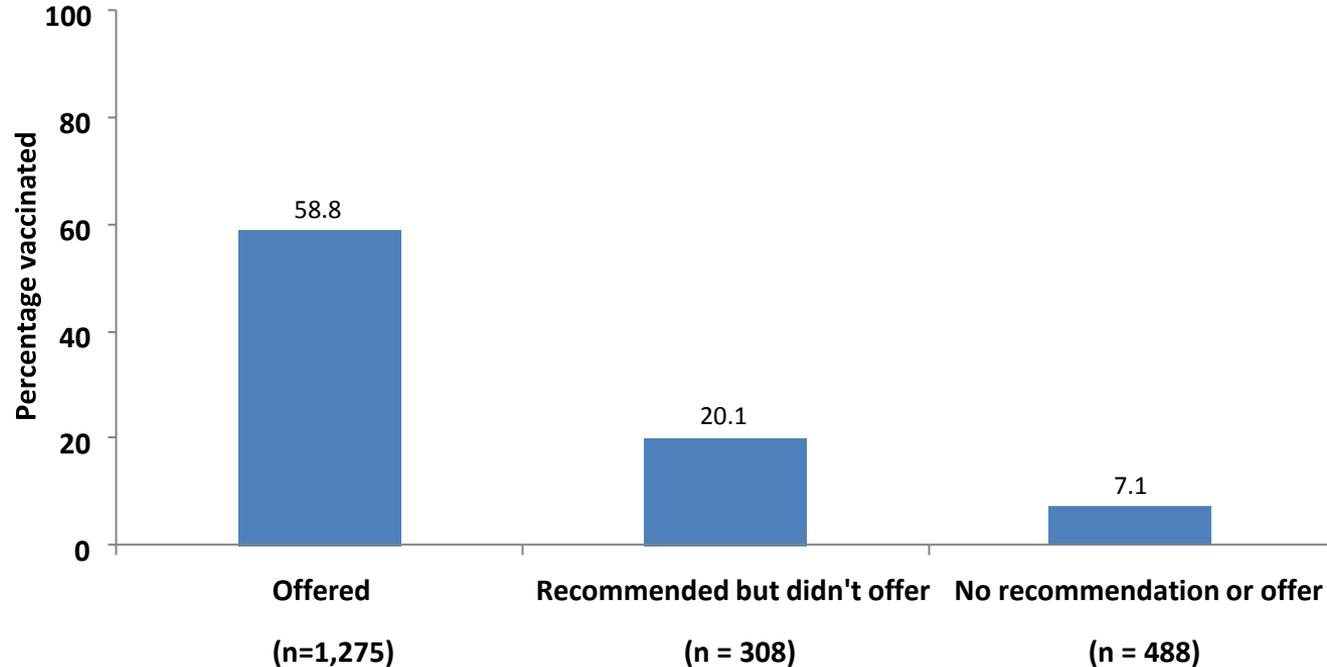
Content source: <http://www.cdc.gov/flu/fluview/pregnant-women-nov2015.htm>



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Impact of Provider Recommendation

Flu vaccination coverage before and during pregnancy among women pregnant any time during August 1 – November 5, 2015, and visited a health care provider at least once since July 2015, by provider recommendation for or offer of flu vaccination, Internet panel survey, United States



Just Some Facts.....

- Influenza & Pertussis are the most poorly controlled vaccine-preventable diseases (VPD) in the United States
- Immunization protects adults as well as vulnerable infants until they can be fully vaccinated
- NYS PHL § 2805-h(3)
 - Offer Tdap to parents, caregivers, extended family in the hospital
- NYS PHL § 2805-h
 - Offer influenza vaccine to all parents and anticipated caregivers of NICU patients and to each admitted person age 65 years or older

Vaccines for Healthcare Personnel (HCP)

HCP, MMR Vaccine and Serologic Testing

- Persons, including HCP, with 2 documented doses of MMR vaccine are considered immune
- Regardless of the results of a subsequent serologic test for measles, mumps or rubella
- *Documented age-appropriate vaccination supersedes the results of subsequent serologic testing*



HCP, MMR Vaccine and Serologic Testing

- HCP who do not have documentation of MMR vaccination and whose serologic test is interpreted as "indeterminate" or "equivocal" should be considered not immune and should receive 2 doses of MMR
- ACIP does not recommend serologic testing after vaccination

Measles and Rubella- *presumptive evidence of immunity for adults*

Documentation of:

- ***Non-high risk adults***
 - **One or more doses of measles containing vaccine** given on or after the first birthday or
 - Laboratory evidence of immunity (positive serological titer) or
 - Birth before January 1, 1957 or
 - Laboratory confirmation of disease (positive PCR or culture of measles disease)

- ***High risk adults = Healthcare Personnel (HCP), international travelers or students at post-secondary institutions***
 - **Two doses of measles containing vaccine** given on or after the first birthday or
 - Laboratory evidence of immunity (positive serological titer) or
 - Birth before January 1, 1957 or
 - Laboratory confirmation of disease (positive PCR or culture of measles disease)

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm>



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HCP and Varicella

- Birth before 1980 is not indicative of presumptive immunity for healthcare workers
- Even though not required under NYS PHL, it is helpful to know the immunity status of healthcare staff
- Only HCP with evidence of immunity should care for suspected/known varicella or Herpes Zoster (HZ) patients
- ACIP recommends:
 - Written documentation of 2 doses of varicella vaccine
 - Laboratory evidence of immunity/confirmation of disease
 - Diagnosis/verification of varicella disease from a HCP
 - Diagnosis/verification of a history of HZ by a HCP
 - Routine testing after 2 doses of vaccine is not recommended

HCP and LAIV

- LAIV may be administered to healthy persons who are not pregnant including:
 - Healthcare personnel and those in close contact with those in high-risk groups (except close contacts of severely immunocompromised persons requiring a protective environment)

Summary

- Aging population – diverse health states
- Immunization should be promoted throughout life – we need to think of vaccines as routine tools for preventive health – vaccination isn't optional, it's necessary
- Age appropriate vaccination should be promoted at every encounter with adults – just as we do with children and adolescents
- National Adult Immunization Plan
 - <http://www.hhs.gov/nvpo/national-adult-immunization-plan/naip.pdf>
 - Releases 2010-roadmap for vaccines and immunization programs
 - Adult vaccine levels are not on track for Healthy People 2020 targets



Strategies to Enhance Protection of Adults Against Vaccine Preventable Disease

- Maintain high levels of immunization across the lifespan—this includes adult populations
- Routine review of vaccine status at well visits - the recommendation from you as the HCP is critical!
- Utilize the New York State Immunization Information System (NYSIIS) for adults – verbal consent
 - Use of NYSIIS as a central location for vaccine documentation will reduce over vaccination and unnecessary bills to patients
- Prevention and control of chronic illnesses that contribute to immunosuppression



Reminder/Recall Notices

- Use postcard reminders or other communication techniques to remind patients they are due for a vaccine
- For multi-series vaccines make the next appointment when the patient is in front of you

Hello Diana!

We wanted to send you a friendly reminder because our records indicate that Neil is due for the following:



If you already have an appointment scheduled, please disregard this message.

Date Due	Services for Neil
May 11, 2016	Examination - Annual
May 11, 2016	Accuplex-4 Heartworm/Lyme/Ehr
May 11, 2016	Lyme Vaccine - Annual
May 11, 2016	Bordetella - Annual
May 11, 2016	Canine Influenza Vaccine - Ann
May 13, 2016	Distemper-Parvo - Three Year
May 13, 2016	Rabies Canine - 3Yr



Neil



Resources

- New York State Department of Health, Bureau of Immunization
 - <https://www.health.ny.gov/prevention/immunization/>
- Centers for Disease Control and Prevention (CDC)
 - <http://www.cdc.gov/vaccines/>
- Advisory Committee on Immunization Practices (ACIP)
 - <http://www.cdc.gov/vaccines/acip/>
- Vaccine Adverse Event Reporting System
 - <https://vaers.hhs.gov/index>
- Standards for Adult Immunization Practice
 - <http://www.cdc.gov/vaccines/hcp/patient-ed/adults/for-practice/standards/index.html>
- Immunization Action Coalition - including “Ask the Experts”
 - <http://www.immunize.org/askexperts/>
- CDC Pink Book
 - <http://www.cdc.gov/vaccines/pubs/pinkbook/index.html>



Questions?

Diana Joyce, RN MPA BSN
Adult & Adolescent Immunization
Coordinator
Bureau of Immunization
New York State Department of Health
518-473-4437

Immunize@health.ny.gov