



# Massachusetts Department of Public Health Bureau of Infectious Disease and Laboratory Sciences



## Adult Immunization Update

April 27, 2016

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# Presenter Disclosure Information

I, Susan Lett, have been asked to disclose any significant relationships with commercial entities that are either providing financial support for this program or whose products or services are mentioned during my presentations.

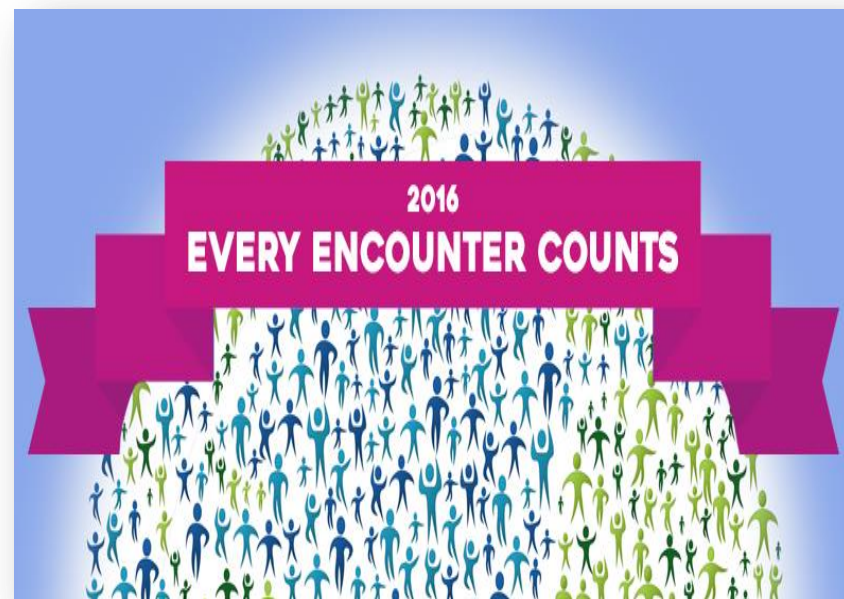
I have no relationships to disclose.

I will discuss the use of vaccines in a manner not approved by the U.S. Food and Drug Administration.

But in accordance with ACIP recommendations.

# Outline

- Recent Morbidity:  
Flu, Mumps, Meningitis
- Adult Immunization Rates
- Vaccine Administration  
Errors
- Adult Immunization  
Standards
- Special Initiatives
- MIIS



# Recent Morbidity

- Flu
- Mumps
- Meningitis

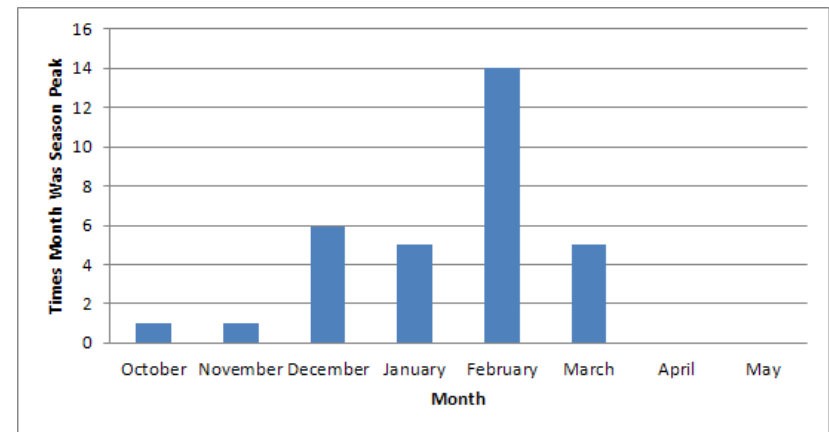


# 2015-2016 Influenza Season

## National Summary

- Relatively mild season relative to other recent seasons
- Peak in early to mid March
  - One of the **later** peaks on record
- Influenza A (H1N1) predominated.
- Circulating strains appeared to be a good match with the vaccine
- Vaccine Efficacy Overall: 60%
  - 51 %: H1N1 viruses
  - 76 %: B viruses
    - 79 %: B/Yamagata
- Other respiratory pathogens circulated causing respiratory illness:
  - human rhino/entero, RSV, parainfluenza virus, human metapneumovirus, adenovirus, and human coronavirus.

Peak Month of Flu Activity  
1982-83 through 2013-14



*\*During 2008-2009, flu activity peaked twice because of the 2009 H1N1 pandemic. Activity in the United States peaked once in February due to seasonal influenza activity and then again in the Spring (June), with the first wave of 2009 H1N1 viruses. A second, larger peak of 2009 H1N1 activity occurred in October, the peak of the 2009-2010 season.*

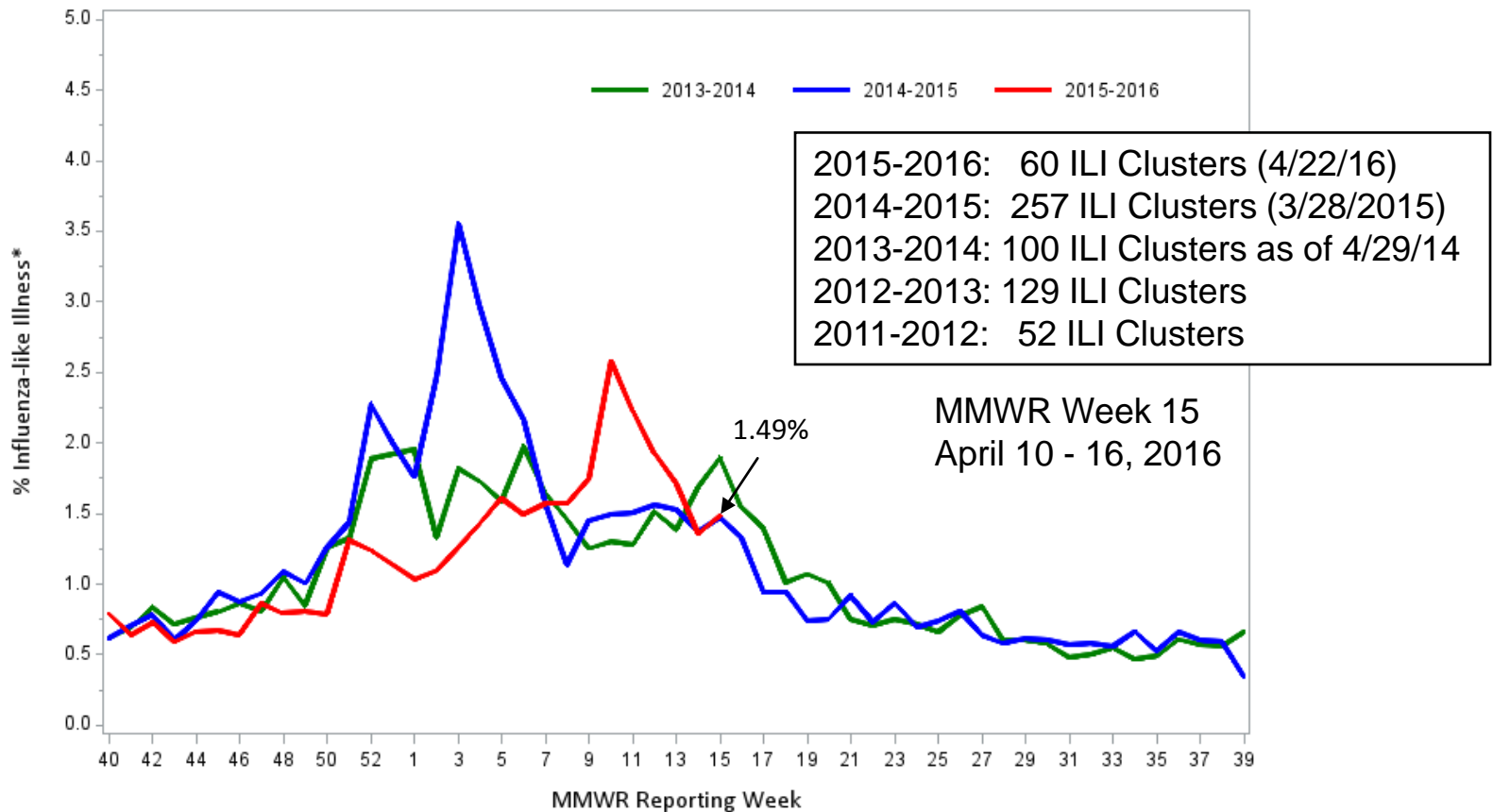
<http://www.cdc.gov/flu/about/season/flu-season.htm>

**Not too late to get vaccinated!**

[www.cdc.gov/flu](http://www.cdc.gov/flu)

# Massachusetts Influenza-like Illness (ILI) as of 4/16/2016

Figure 1: Percentage of ILI visits reported by sentinel provider sites



\*Influenza-like illness (ILI, defined by fever >100F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites

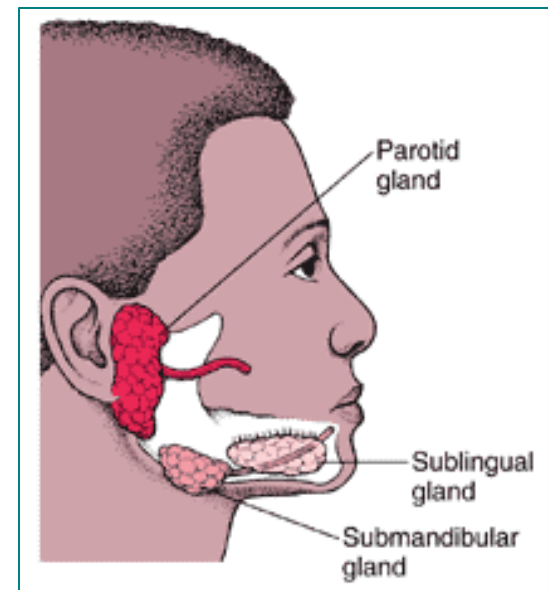
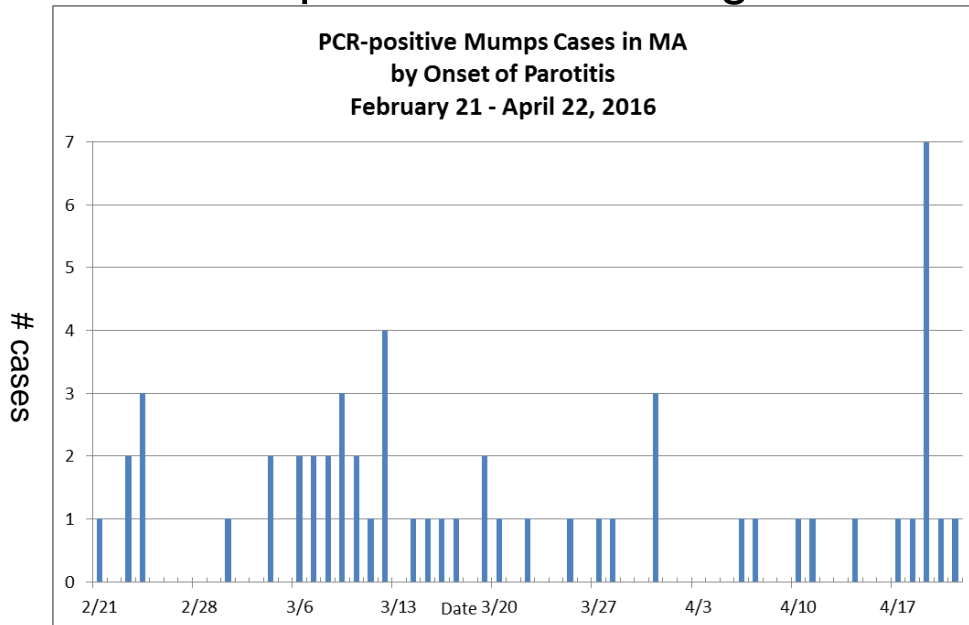
# Mumps Outbreak 2016

56 confirmed in MA (as of 4/22/16), all but one by PCR

- 34 confirmed cases at Harvard
- Cases confirmed at seven other Boston-area universities
- Probable cases at two other universities
- 28 M/28 F
- Age range 15-50 – Median age 21
- Majority with two MMR doses

Call 617-983-6800 while patient is still in your office, to ensure collection of correct specimens and testing at MA PHL.

>300 suspect cases investigated since 2/15/2016



# Challenges – Mumps Outbreak

- Many causes of parotitis (e.g., influenza)
- Asymptomatic and mildly ill may spread mumps
- Isolation of patients who feel well and/or have negative results – **extremely important!**
- Testing
  - Buccal swab in VTM for PCR soon after onset
  - **False negative PCR results may occur (intermittent shedding)**
  - IgM testing of limited value in vaccinated population
  - Acute/convalescent IgG titer comparison can rule in and rule out cases
- Social distancing in a college-age cohort
- Messaging – when 2 doses only 88% effective (at best) in preventing mumps



# Invasive Meningococcal Disease

- Five cases in two months among homeless people with ties to Boston – very unusual – 4 males/1 female
- Two deaths
- Antibiotic PEP to close contacts
- Two serogroup C; three serogroup Y
- Large vaccination campaign – over 3,800 received vaccine to date
- Case-control interviews to determine risk factors

**Vaccine rushed to Boston's homeless after a death**

By Felice J. Freyer | GLOBE STAFF FEBRUARY 20, 2016

Boston health officials are vaccinating hundreds of homeless people against a severe bacterial infection that can kill within hours, after a homeless man died Monday from the disease.

Top 10 Trending Articles

- Most Viewed
- Most Commented
- Most

Silent protest by Bill Belichick at NFL owners meetings?

HubSpot book is unflattering portrait of Cambridge company

Trump threatens to 'spill the beans' on Cruz's wife



# Immunization Rates



# MA Receives 2015 Vaccination Coverage Awards



## Outstanding Progress Towards Healthy People 2020 Goals

### ★ Adolescents Aged 13 – 17 Years

- Based on 2014 NIS-Teen data  
1 Tdap 93%, 1 MenACWY 92%, 1 HPV (females) 69%

### ★ Children Aged 19 – 35 months

- 4 DTap, 3 Polio, 1 MMR, Hib full series, 3 HepB, 1 Var, 4 PCV, 1 HepA, and Rotavirus full series, based on 2014 NIS data.

## Highest Coverage

### ★ Influenza Vaccination among Children Aged 6 Months – 17 Years

- 1 or more doses for the 2014-15 influenza season  
76.1%

### ★ Highest Pneumococcal Vaccination Coverage among High-Risk Adults 18 – 64 Years

- 36.4%

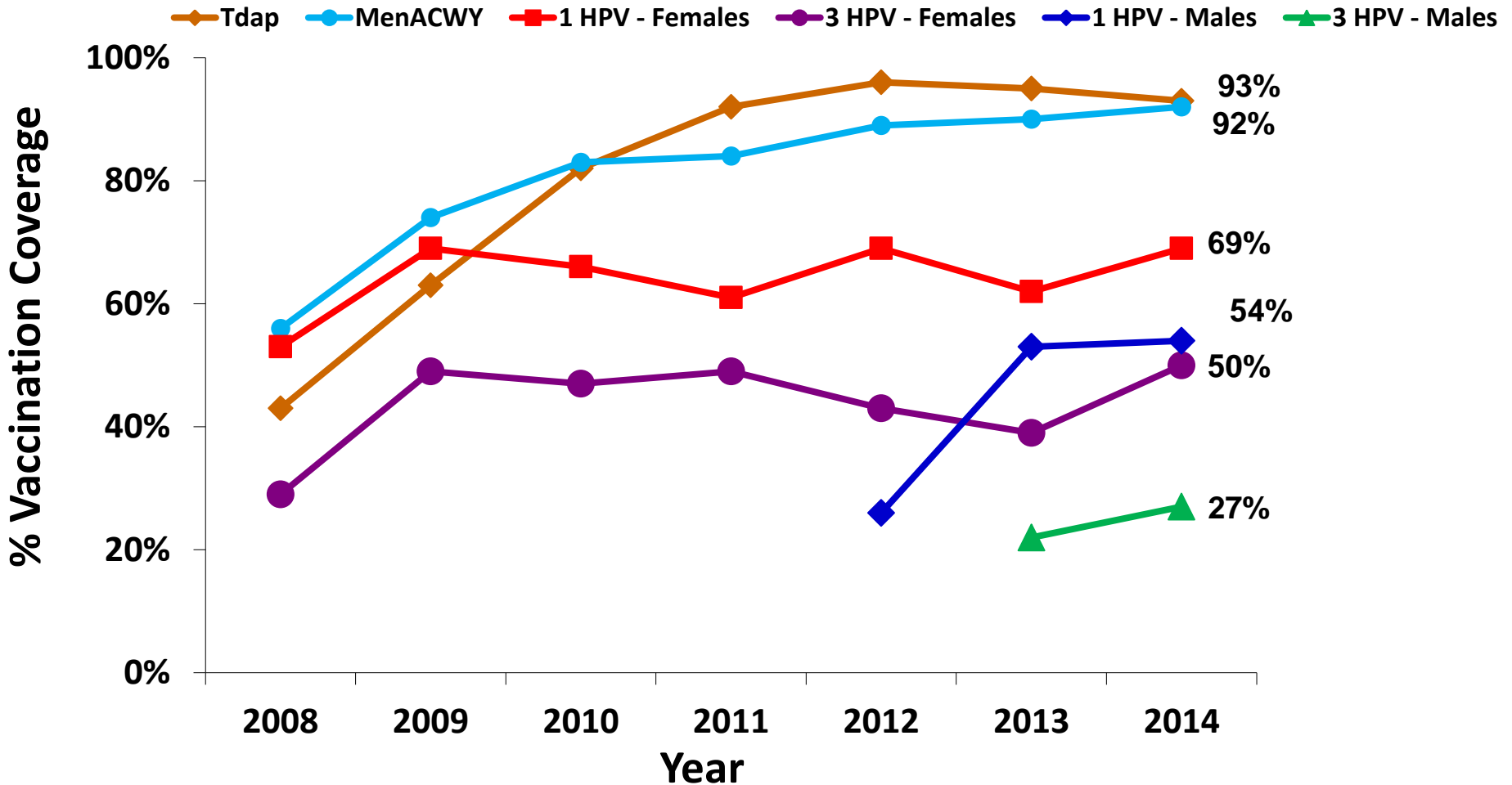
# Adult Vaccination Rates, MA and US, 2013-14

Vaccine/Group	MA 2013 <sup>1</sup>	MA 2014 <sup>1</sup>	US 2014 <sup>2</sup>
Tdap ≥18 y/o	37%	41%	20%
Zoster ≥60 y/o	30%	39%	28%
HPV females 18-26 y/o (1+ doses)	61%	64%	40%
HPV females 18-26 y/o (3+ doses)	76%*	79%*	N/A
HPV males 18-26 y/o (1+ doses)	23%	38%	8%
HPV males 18-26 y/o (3+ doses)	30%*	N/A	N/A
Pneumococcal vaccine ≥65 y/o	70%	72%	61%

\*Percent of those who received at least 1 dose.

Source: <sup>1</sup>MA BRFSS includes those ≥18 years, <sup>2</sup>NHIS includes those ≥19 years

# Adolescent Vaccination Coverage, Massachusetts, NIS 13-17 year Olds, 2008 – 2014



Note: For the purposes of comparability to 2014 estimates, 2013 estimates were revised by retrospectively applying the revised 2014 provider data definition to the 2013 NIS teen data and as a result, differ from those previously published.

# MA Flu Vaccination Rates

	MA 2013-14	MA 2014-15	US 2014-15
Everyone 6 mos+	53%*	#3 55%	47%*
Children 6 mos – 17 yrs	72%	#2 76%	59%
○ Children 6 mos – 4 yrs	87%	81%	70%
○ Children 5 – 12 yrs	72%	#3 78%	62%
○ Adolescents 13 – 17 yrs	61%	#1 71%	47%
Adults 18 +	49%*	50%	44%*
○ Adults 18 – 64 y/o	45%*	45%*	38%*
○ Adults HR 18 – 64 y/o	58%	53%	48%
○ Adults 50 – 64 y/o	51%	53%	47%*
○ Adults 65+	64%*	67%	67%*

2014-15 National Immunization Survey (NIS) and Behavioral Risk Factor Surveillance System (BRFSS)

\*Statistically significant

# Seasonal Influenza Vaccination Rates, MA and US, $\geq 6$ months of age, by Race/Ethnicity, 2014-2015 Season

	<b>MA</b> <b>(n=11,895 )</b>	<b>US</b> <b>(n=451,358)</b>	<b>MA</b> <b>Ranking</b>
	<b>% (CI)</b>	<b>% (CI)</b>	
<b>White</b>	55% ( $\pm 3$ )	49% ( $\pm 0.5$ )	4
<b>Black</b>	56% ( $\pm 10$ )	44% ( $\pm 1.3$ )	9
<b>Hispanic</b>	58% ( $\pm 7.5$ )	44% ( $\pm 1.3$ )	7
<b>Other</b>	50% ( $\pm 8.4$ )	48% ( $\pm 1.7$ )	20

Source: 2014-15 NIS-Flu and BRFSS, as analyzed by CDC

# Pneumococcal Vaccination Rates, MA and US Adults 65+ years of age, by Race/Ethnicity, 2014

	<b>MA</b> (n=4,977) <sup>1</sup>	<b>US</b> (n=7,748) <sup>2</sup>
	<b>% (CI)</b>	<b>% (CI)</b>
<b>White</b>	73% ( $\pm 2$ )	65% ( $\pm 1.6$ )
<b>Black</b>	67% ( $\pm 11$ )	50% ( $\pm 4.4$ )
<b>Hispanic</b>	59% ( $\pm 14.6$ )	45% ( $\pm 4.4$ )



# Immunization Rates in Pregnant Women, MA 2009-2013

## Data from MA Pregnancy Risk Assessment Monitoring System (PRAMS)

**Flu vaccination: a *growing* trend among pregnant women**  
Results of CDC's 2013-2014 internet panel survey of pregnant women



More than ever, pregnant moms are getting their flu vaccination

Flu shots help protect pregnant women and their babies from potentially serious illness during and after pregnancy.

During the 2013-14 flu season, an estimated 52%\* of pregnant women in the U.S. protected themselves and their babies from flu by getting a flu shot. This is a significant improvement since the years before the 2009 pandemic, but almost half of pregnant women and their babies still remain unprotected from influenza. We can do better. All pregnant women need flu shots to protect themselves and their babies.

Influenza vaccination coverage among pregnant women aged 18-49 years\*\*



Influenza season	Vaccination coverage (%)
2007-08	25
2008-09	35
2009-10	38
2010-11	50
2011-12	48
2012-13	50
2013-14	52

**If you're pregnant, a flu shot:**

- is safe, and can be received at any time during pregnancy
- can help protect against premature labor and delivery
- protects your baby after birth for 6 months, while she or he is too young to get a flu shot

**Pregnant women also need a whooping cough (Tdap) shot. Talk to your provider.**

**Make sure to protect yourself and your baby. Get vaccinated.**

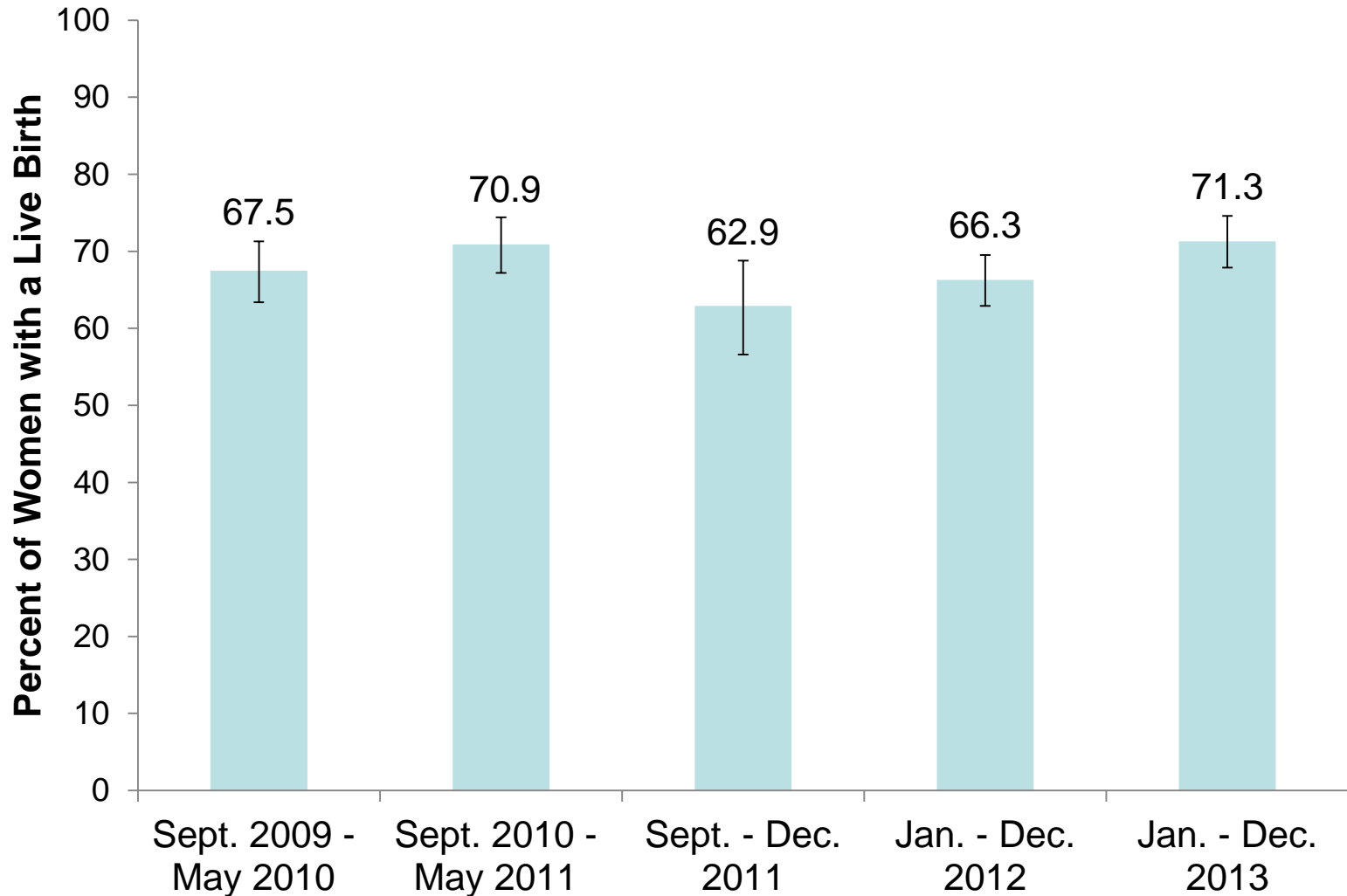
[www.cdc.gov/flu/protect/vaccine/pregnant.htm](http://www.cdc.gov/flu/protect/vaccine/pregnant.htm)

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

\*www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a3.htm \*\* Sources: 2007-2010 BRFSS, 2010-2014 Internet Panel Survey

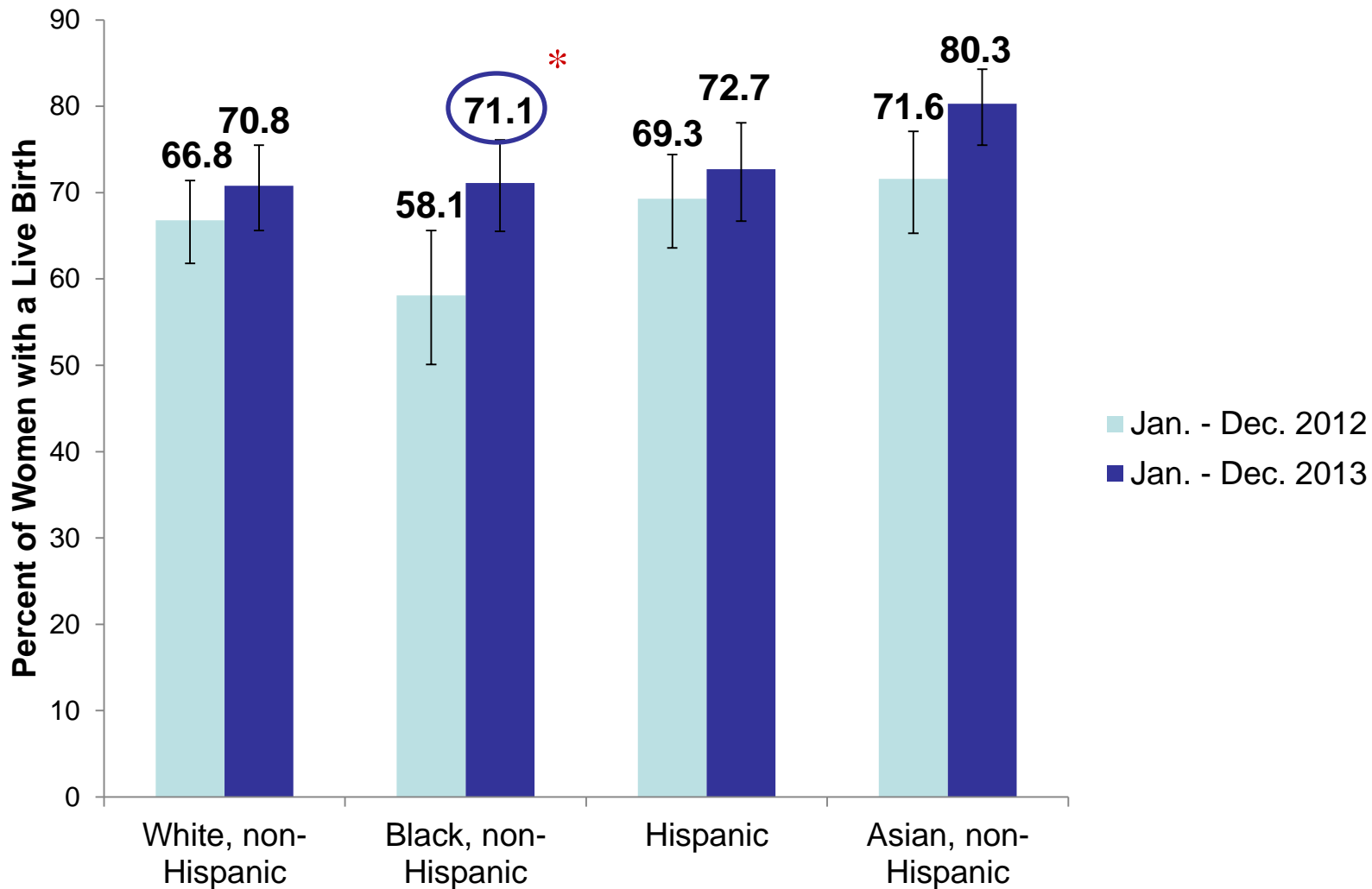
NCIRD409 | 09.18.2014

# Influenza Vaccination Rates, MA Pregnant Women, 2009-2013



Source: MA PRAMS

# Influenza Vaccination by Race/Ethnicity, MA Pregnant Women, 2012 vs. 2013



Source: MA PRAMS

\*Statistically significant

# Vaccine Administration Errors

- Employee Flu Clinic
- One & Only Campaign
- CDC Resources



# Injection Safety Incident, NJ

- NJ business contracted with a health service company to provide influenza vaccine to its employees
- Plan was to use pre-filled syringes from manufacturer
- Instead nurse brought two 10-dose vials of flu vaccine to vaccinate 67 patients
  - Stored in her home refrigerator, with no temp. monitoring
  - Reported using 2 syringes to vaccinate all patients
  - Between each patient wiped syringe with alcohol and changed to new needle

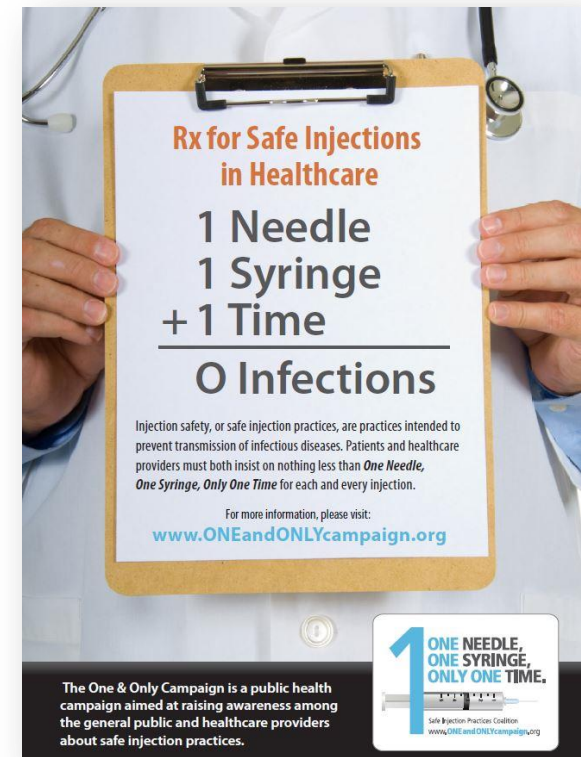
## Impact

- Public health and private sector worked together on investigation and notification of employees to:
  - Be screened for hepatitis B, hepatitis C and HIV
  - Receive HepB vaccine if indicated
  - Be revaccinated with influenza vaccine
- Nurse had to surrender her license
- CDC developed new materials

# One & Only Campaign: Injection Safety Guidelines

- Follow proper infection control practices and maintain aseptic technique during the preparation and administration of injected medications
- Never administer medications from the same syringe to more than one patient, even if the needle is changed
- Never enter a vial with a used syringe or needle
- Do not use medications packaged as a single-dose or single-use for more than one patient
- Whenever possible and appropriate, limit use of multi-dose vials

CDC & Safe Injection Practices Coalition  
<http://www.cdc.gov/injectionsafety/1anOnly.html>





# CDC Resource Page

# MAIC Injection Safety Resource Page

## One & Only Campaign Materials



**Safe Injection Practices DVD**  
Item 22-0087

**Rx for Safe Injections Poster**  
Item 22-0696

**It's Elementary Poster**  
Item 22-0697

**Provider Brochure**  
Item 22-0702

**Patient Brochure**  
Item 22-0701



**Injection Safety Pocket Card**  
Item 22-0713



**Logo Poster for General Public**  
Item 22-0699



**Injection Safety Dangerous**



**Injection Safety Checklist**

### You Can Order 3 Ways



### SCAN

Scan with your smartphone to access the ordering page



**CALL**  
1-800-CDC-INFO



**CLICK**  
[www.cdc.gov/pubs/CDCInfoOnDemand.aspx](http://www.cdc.gov/pubs/CDCInfoOnDemand.aspx)

Select Injection Safety—One & Only Campaign to order materials

Massachusetts Adult Immunization Coalition  
The Coalition was established in 1995

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## Injection Safety Article and Related Resources

The December 10, 2015 Morbidity and Mortality Weekly Report (MMWR) included the report of a recent incident at an employee flu vaccination clinic in New Jersey

This article details the injection safety, infection control, vaccine administration and vaccine storage and handling errors committed by a health services company contracted to provide an employee flu vaccination clinic, and how the state immunization program responded to the situation. Sixty-seven employees who received flu vaccine at the clinic were notified that they should be screened for hepatitis B, hepatitis C, and HIV, and receive hepatitis B vaccine, if indicated. In addition, re-vaccination with influenza vaccine as recommended. CDC continues to promote safe injection and vaccine management practices, and encourages its public health partners to do the same. The following are summary messages, recommendations and some helpful web resources for immunization service providers and businesses planning vaccination clinics.

### Take-Home Messages

- Millions of people safely receive vaccinations each year.
- Proper injection safety, vaccine administration, and vaccine storage and handling are critical to ensuring vaccination is safe and effective.
- When infection control breaches occur, they highlight the need for continued education and training of immunization service providers on the Centers for Disease Control and Prevention (CDC) guidelines for injection safety, vaccine administration, and vaccine storage and handling.

### Recommended Actions

- Immunization service providers should ensure their staff adhere to CDC guidelines for infection prevention, vaccine administration, and vaccine storage and handling practices.



<http://www.cdc.gov/pubs/CDCInfoOnDemand.aspx>

<http://maic.jsi.com/resources/injection-safety-article-and-related-resources/>

# CDC At-A-Glance Resource Guide

- Immunization service providers and business retaining their services should ensure staff adhere to CDC guidelines.
- New Guide includes links to info about:
  - Infection prevention
  - Vaccine administration and safety
    - ACIP Gen Imm Recs
    - Skills checklists
  - Standing Orders
  - Vaccine storage and handling practices
  - Reporting to:
    - VAERs
    - Institute for Safe Medication Practices (ISMP)
  - VPD epidemiology

**AT-A-GLANCE RESOURCE GUIDE**  
**VACCINE ADMINISTRATION AND STORAGE AND HANDLING**

<div style="background-color: #d9ead3; padding: 5px; margin-bottom: 5px;"> <b>IMMUNIZATION AND VACCINES (GENERAL)</b> </div> <p>General Recommendations on Immunization - Recommendations of the Advisory Committee on Immunization Practices (ACIP) Guidance about vaccination and vaccines for health care providers. <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/jr6002a1.htm">www.cdc.gov/mmwr/preview/mmwrhtml/jr6002a1.htm</a></p> <p>Epidemiology and Prevention of Vaccine-Preventable Diseases (the Pink Book), 13<sup>th</sup> Edition: Course Textbook (2015) Comprehensive information on routinely used vaccines and the diseases they prevent. <a href="http://www.cdc.gov/vaccines/pubs/pinkbook/index.html">www.cdc.gov/vaccines/pubs/pinkbook/index.html</a></p> <p>The Pink Book Webinar Series One-hour webinars with CDC experts exploring chapters of the Pink Book. <a href="http://www.cdc.gov/vaccines/ed/webinar-epv/index.html">www.cdc.gov/vaccines/ed/webinar-epv/index.html</a></p> <p>"You Call the Shots" Online Training Modules A series of training modules for health care providers on vaccine recommendations with self-tests to assess learning. CE credit available. <a href="http://www.cdc.gov/vaccines/ed/youcalltheshots.htm">www.cdc.gov/vaccines/ed/youcalltheshots.htm</a></p> <p>Vaccine Safety Safety information about specific vaccines and answers to commonly asked questions. <a href="http://www.cdc.gov/vaccinesafety/index.html">www.cdc.gov/vaccinesafety/index.html</a></p> <p>Vaccine Information Statements (VIS) Statements required by law to inform patients about the benefits and risks of a vaccine they are receiving. <a href="http://www.cdc.gov/vaccines/hcp/vis/">www.cdc.gov/vaccines/hcp/vis/</a></p>	<div style="background-color: #d9ead3; padding: 5px; margin-bottom: 5px;"> <b>VACCINE STORAGE AND HANDLING</b> </div> <ul style="list-style-type: none"> <li>▶ <b>Epidemiology and Prevention of Vaccine-Preventable Diseases (the Pink Book): Storage and Handling Chapter</b> <a href="http://www.cdc.gov/vaccines/pubs/pinkbook/vac-storage.html">www.cdc.gov/vaccines/pubs/pinkbook/vac-storage.html</a></li> <li>▶ <b>Vaccine Storage and Handling Guidelines and Recommendations</b> Resources on vaccine storage and handling recommendations and guidelines. <a href="http://www.cdc.gov/vaccines/recs/storage/default.htm">http://www.cdc.gov/vaccines/recs/storage/default.htm</a></li> <li>▶ <b>Vaccine Storage and Handling Toolkit</b> Comprehensive guidance for health care providers on vaccine storage and handling recommendations and best practices. <a href="http://www.cdc.gov/vaccines/recs/storage/toolkit/storage-handling-toolkit.pdf">www.cdc.gov/vaccines/recs/storage/toolkit/storage-handling-toolkit.pdf</a></li> <li>▶ <b>"Keys to Storing and Handling Your Vaccine Supply" Training Video</b> This training outlines vaccine storage and handling best practices, and provides helpful tips for preventing errors and preserving vaccine supply and integrity. <a href="http://www2.cdc.gov/vaccines/ed/shvideo/">www2.cdc.gov/vaccines/ed/shvideo/</a></li> </ul> <div style="background-color: #d9ead3; padding: 5px; margin-bottom: 5px;"> <b>VACCINE ADMINISTRATION</b> </div> <ul style="list-style-type: none"> <li>▶ <b>Skills Checklist for Immunization</b> A self-assessment tool from the Immunization Action Coalition for health care staff who administer vaccines. <a href="http://www.immunize.org/catg.d/p7010.pdf">www.immunize.org/catg.d/p7010.pdf</a></li> <li>▶ <b>Epidemiology and Prevention of Vaccine-Preventable Diseases (the Pink Book): Vaccine Administration Chapter</b> <a href="http://www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html">www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html</a></li> <li>▶ <b>Vaccine Administration Guidelines and Recommendations</b> CDC resources include information on vaccine dosage, route, and site; vaccines with diluents; sample vaccine records; recommendations for emergency situations; managing vaccine reactions; and vaccine indications. <a href="http://www.cdc.gov/vaccines/recs/vac-admin/default.htm">www.cdc.gov/vaccines/recs/vac-admin/default.htm</a></li> <li>▶ <b>Injection Safety</b> Information for health care providers about safe injection practices. <a href="http://www.cdc.gov/injectionsafety/providers.html">www.cdc.gov/injectionsafety/providers.html</a></li> <li>▶ <b>Using Standing Orders for Administering Vaccines: What You Should Know</b> The Immunization Action Coalition provides standing orders for ACIP-recommended vaccines and an overview about the use of standing orders for vaccination. <a href="http://www.immunize.org/standing-orders/">www.immunize.org/standing-orders/</a></li> </ul>
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U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

December 2015  
02249275-8

<http://www.cdc.gov/vaccines/recs/downloads/vacc-admin-storage-guide.pdf>





# Standards for Adult Immunization Practice and Other Tools to Improve Coverage

Standards available at:

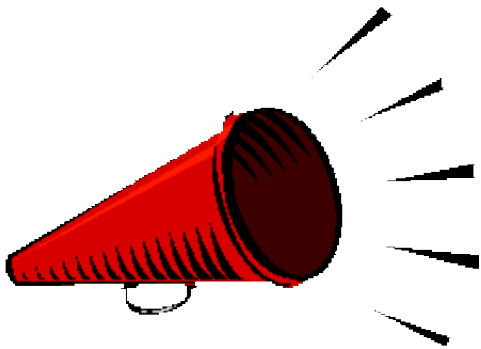
<http://www.cdc.gov/vaccines/hcp/patient-ed/adults/index.html>

or

<http://www.publichealthreports.org>

# Adult Immunization Practice Standards

- **Call to action for healthcare professionals for evidence-based activities**
  - **Assess** immunization status of all patients in every clinical encounter.
  - Strongly **recommend** vaccines that patients need.
  - **Administer** needed vaccines or **refer** to a vaccinating provider and confirm receipt
  - **Document** vaccines received by patients, including entering immunizations into immunization registries.



Goal is to decrease missed opportunities!

# Immunization Information Systems (IIS) (Immunization Registries)

- **Increased use important for many reasons, including**
  - Consolidates immunization records
  - Coordination and communication among patients' multiple providers
  - Ensuring patients get the right vaccines at the right time
  - Potential for use in quality measures and coverage tracking
  - Increase preparedness for a pandemic vaccine response
  
- **Clinical decision support**



References: 1. Hurley, et al. Annals of Internal Medicine, 2014.

2. Guide to community preventive services: [www.thecommunityguide.org/vaccines/index.html](http://www.thecommunityguide.org/vaccines/index.html)

3. Adult non-influenza vaccine coverage: [www.cdc.gov/mmwr/preview/mmwrhtml/mm6305a4.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6305a4.htm).

# ADULT IMMUNIZATION PRACTICE STANDARDS

<http://www.cdc.gov/vaccines/hcp/patient-ed/adults/for-practice/standards/>

## Immunizing Adult Patients: New Standards for Practice

Your patients trust you to give them preventable diseases can result in serious illness. Make adult vaccination a standard of care.

Your patients have probably not received all the vaccines they need.

Even though most insurance plans cover the cost of recommended vaccines, adult vaccination rates are extremely low. Each year, tens of thousands of adults suffer, are hospitalized, and even die from preventable diseases that could be prevented with vaccines.

Your patients may not even realize they need vaccines.

A recent national survey found that most adults are not aware of vaccines throughout their lives against diseases like shingles and hepatitis. Many are not receiving vaccine referrals from their healthcare providers.

You can make a difference.

Clinicians are valued and of health in most adults believe are important and recommendation healthcare provider predictor of patients needed vaccines.

NEW Standards for Adult Immunization Practice emphasize the role of healthcare professionals, whether they provide immunization. In ensuring that adult patients are fully immunized, the National Vaccine Advisory Committee, the Centers for Disease Control and Prevention, and national medical associations.

### 1 Vaccine Needs Assessment A Series on Standards for Adult Immunization Practice

Assessment is the critical step that helps patients get the vaccine serious vaccine-preventable diseases.

As a standard of care—or not—you should assess the status of every clinical encounter and discuss the vaccines that they need.

Assessing your patient's clinical encounter will help you to:

- Many adults do not schedule services, therefore it is critical to come in for a visit.
- Some vaccines are indicated for specific risk factors, such as lifestyle, health, or occupational exposures.
- Vaccine recommendations may not be up to date with their status.

There are simple ways to assess your patient's needs:

- Give patients a vaccine assessment.
- Include standing orders or protocols to administer needed vaccines.
- Integrate vaccine prompts in your workflow.

See back for more tips and resources.

Routinely assessing patients can make a difference.

Adults think immunization is important and recommendation healthcare provider predictor of patients needed vaccines.

For information on insurance coverage, visit [www.cdc.gov](http://www.cdc.gov).

Information Series for Healthcare Professionals  
[www.cdc.gov/vaccines/adultstandards](http://www.cdc.gov/vaccines/adultstandards)

### 2 Vaccine Recommendation A Series on Standards for Adult Immunization Practice

Your recommendation is the key to getting patients the vaccines they need.

Routinely assess patient's immunization status and strongly recommend vaccines whether you stock the vaccine.

Recommending vaccine to get immunized.

Research indicates that most adults are likely to get them if recommended.

For some patients, a clear recommendation is not enough. You need to make an informed decision about sharing critical information.

**SHARE** the tailored vaccine is right for their status, lifestyle, occupation.

**HIGHLIGHT** positive personal or in your benefits, and strong recommendation.

**ADDRESS** patient's concerns, including in plain and understandable terms.

**REMINDE** patients that they and their loved ones are at risk for serious diseases.

**EXPLAIN** the potential benefits of getting vaccinated, including serious health or family obligations.

For tips on answering common questions, visit [www.cdc.gov](http://www.cdc.gov).

Information Series for Healthcare Professionals  
[www.cdc.gov/vaccines/adultstandards](http://www.cdc.gov/vaccines/adultstandards)

### 3 Vaccine Administration A Series on Standards for Adult Immunization Practice

Take steps to improve vaccine delivery and better protect your patients from preventable diseases.

1. Assess patient vaccination: U.S. vaccination rates are extremely low. Research indicates that many missed opportunities for clinical encounters.

2. Recommend and offer vaccine: Research shows when patients are offered the vaccine at the time of their visit, they are more likely to get vaccinated.

3. Train and educate your staff: Building your staff's skills and confidence can help improve vaccine delivery.

4. Properly store and handle vaccine: This critical step can reduce waste and ensure vaccine potency.

5. Distribute Vaccine Information Statement: Help your patients make informed decisions by providing them with up-to-date information on potential risks for each vaccine.

6. Ensure proper care for patients: Minimize potential risks to your patients, such as having your staff administer vaccines.

7. Follow standard precaution: Minimize the risks of spreading disease.

8. Be aware of and prepared for adverse reactions: All vaccines have the potential to cause a reaction, such as anaphylaxis, while rare, can be life-threatening. Make sure your staff is prepared to handle these reactions.

Information Series for Healthcare Professionals  
[www.cdc.gov/vaccines/adultstandards](http://www.cdc.gov/vaccines/adultstandards)

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[www.cdc.gov/vaccines/adultstandards](http://www.cdc.gov/vaccines/adultstandards)

Information Series for Healthcare Professionals  
[www.cdc.gov/vaccines/adultstandards](http://www.cdc.gov/vaccines/adultstandards)

### 4 Vaccine Referral A Series on Standards for Adult Immunization Practice

Even if your practice doesn't stock all or any vaccines, you still have a critical role to play in ensuring your patients are protected from serious diseases.

Routinely assess your patients' immunization status with vaccines you do stock and refer them to other providers for recommended vaccines you do not stock.

Here's why it's important:

• Each year, thousands of adults suffer illness, are hospitalized, or die from preventable diseases that could be prevented with vaccines throughout their lives, such as pertussis, hepatitis, and shingles.

• Patients rely on you to get the information they need to protect their health.

If you don't tell them about the vaccines they need, they are unlikely to get vaccinated.

Here's what you can do:

• Refer your patients to other providers if you don't stock the vaccine.

• Confirm that patients receive vaccines by following up at the time of their visit.

• Document the vaccines your patients need and when they are due.

• Facilitating use of reminder and recall notifications to send to patients.

• Making calculation of your office's immunization coverage rates easier.

### 5 Vaccine Documentation A Series on Standards for Adult Immunization Practice

Since patients can get their vaccines from many different healthcare professionals, assessing current vaccination status for patients can be challenging but it is very important.

Keep an up-to-date record of the vaccines your patients have received to make sure they have the best protection against vaccine-preventable diseases.

To ensure patients get the vaccines they need and to prevent unnecessary vaccination, you should:

- Record vaccination in patients' medical records.
- Provide documentation of vaccines received to patients for their personal records.
- Document vaccinations in immunization information systems (IIS).

IIS are confidential, community-wide, computerized databases that record vaccines administered by participating healthcare professionals. Documenting vaccines into IIS can benefit your practice by:

- Consolidating vaccination records for your patients.
- Helping you assess your patients' immunization status.

- Making sure your patients have completed necessary vaccine series.
- Reducing chances for unnecessary doses of vaccine or missed opportunities to provide vaccines.

- Facilitating use of reminder and recall notifications to send to patients.
- Making calculation of your office's immunization coverage rates easier.

For more information on how to access IIS, contact your state coordinator. (See back for details.)

DON'T WAIT

# MA Special Initiatives



# Tools that Help Improve Immunization Rates

- Partnerships
- Tools to address vaccine confidence
- National Vaccine Injury Compensation Program
- Evidence-based clinical guidance
- More vaccinators in more venues
  - Immunization Neighborhood
- Health care reform
  - Improves patient access and provider reimbursement
- Information technology
  - Consolidates records and shares information
  - Clinical decision support
  - MIIS



# Immunization Neighborhood

## Collaboration, Coordination, and Communication:

Among immunization stakeholders dedicated to meeting the immunization needs of the patient and protecting the community from vaccine-preventable diseases.



Adapted from :



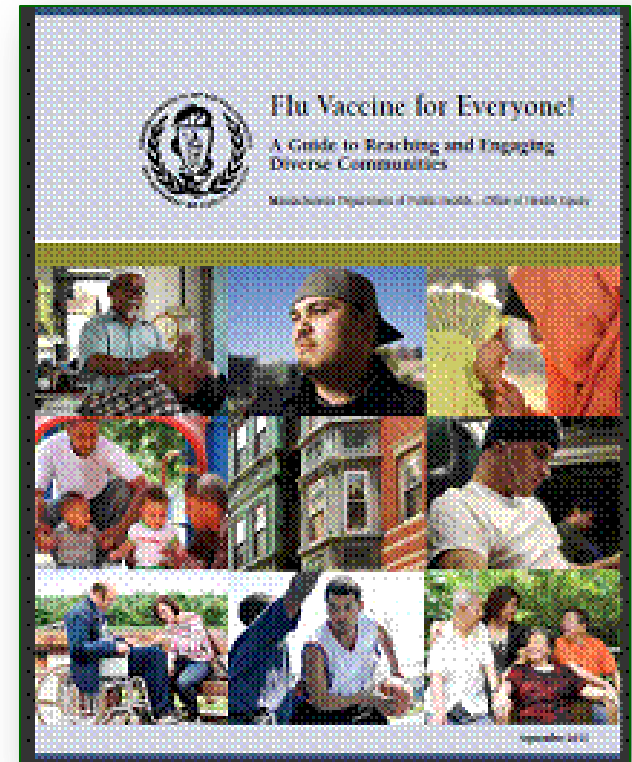


# Collaboration with the Office of Health Equity (OHE)



Immunization Program has a long history of collaboration with OHE and the Office of Emergency Preparedness to offer assistance and resources to public health agencies to help reduce immunization disparities in their communities

<http://www.mass.gov/eohhs/docs/dph/cdc/flu/vaccine-admin-diverse-communities.pdf>





# HPV Communication Strategies

- Talk about HPV vaccination as **cancer prevention!** Cancer prevention is important to parents so remind them that certain HPV types cause not only cervical cancer but anal, penile, vaginal, vulvar, and oropharyngeal cancers as well.
- Recommend the HPV vaccine **the same way and on the same day** as other vaccines.
- Example:
  - “Now that your child is 11, they are due for three shots that are really important for all kids their age: HPV, meningococcal, and Tdap. I recommend giving these at the end of the visit today.”

**Massachusetts HPV Initiative:**  
Raising HPV Immunization Rates to Prevent HPV-Related Cancers

**WHAT YOU NEED TO KNOW ABOUT HPV AND HPV-RELATED CANCERS**

- Approximately 79 million people in the US are infected with HPV, and approximately 14 million people in the US will become newly infected with HPV each year.
- Each year, an estimated 26,000 cancers are attributable to HPV; about 17,000 in women and 9,000 in men.
- Cervical cancer is the most common HPV-associated cancer among women and oropharyngeal cancers are the most common among men.

**THE CURRENT PROBLEM**  
Even though the HPV vaccine can prevent cancer, immunization rates remain very low among female and male adolescents in our state. Missed opportunities for HPV vaccination may result in serious consequences. The CDC, AAP and AAFP recommend that all 11-12 year-olds receive HPV, meningococcal, and Tdap vaccines at the same time.

**WHAT CAN PROVIDERS DO?**  
The most significant factor in parents' decision to vaccinate their children with HPV vaccine is a strong, routine recommendation from the child's healthcare provider. Research shows that simply changing the wording used to introduce the HPV vaccine makes a tremendous difference.

**HELPFUL STRATEGIES**

- Talk about HPV vaccination as **cancer prevention**. Cancer prevention is important to parents so remind them that certain HPV types can cause not only cervical cancer, but also anal, penile, vaginal, vulvar, and oropharyngeal cancers.
- Recommend the HPV vaccine the **same way and on the same day** as other vaccines.

**“Now that your child is 11, they are due for three shots that are really important for all kids their age: HPV, meningococcal, and Tdap. I recommend giving these at the end of the visit today.”**

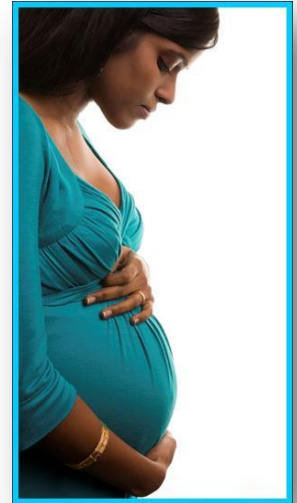
**OTHER RESOURCES**  
CDC: You are the Key to Cancer Prevention Clinician Website: <http://www.cdc.gov/hpv/hcp/>  
MA Chapter, American Academy of Pediatrics (MCAAP) HPV Website: <http://mcaap.org/immunization/hpv/>  
Contact: Rebecca Vanucci ([rebecca.vanucci@state.ma.us](mailto:rebecca.vanucci@state.ma.us)), MDPH Immunization Outreach Coordinator, for more information.

Massachusetts Department of Public Health  
Massachusetts Chapter, American Academy of Pediatrics  
March 2015

New MDPH resource found at  
<http://mcaap.org/immunization-hpv/>

# Innovative Opportunity for OB-GYNs to Improve Their Immunization Programs

- American College of Obstetricians and Gynecologists (ACOG) 3 year grant to increase immunization rates for all women in CA and MA
- MA Chapter of ACOG is looking for practices to participate:
  - Learn about innovative ways to improve immunization rates
  - Be recognized as leader on the state and national level
- Eligibility requirements for participation includes the following:
  - ACOG membership
  - EHR system that can be used to track data requirements such as immunization rates
  - Serve both adult obstetrical and adult gynecology patients
  - Willingness to participate in state health department's immunization registry
- For more information, visit



[www.immunizationforwomen.org/projects](http://www.immunizationforwomen.org/projects)



**IMMUNIZATION** *for WOMEN*

Immunization Information for Ob-Gyns and Their Patients

# “Born with Protection” MATERNAL Tdap CAMPAIGN

Tdap is recommended with **every** pregnancy during the 3<sup>rd</sup> trimester



“The whooping cough vaccine I got during my 3<sup>rd</sup> trimester will help protect my baby starting at her first breath.”

Whooping cough can make your baby very sick with coughing fits and gasping for air. It can even be deadly, and there are outbreaks happening across the United States. When you get the whooping cough vaccine, also called Tdap, during the third trimester of your pregnancy, you'll give antibodies to your baby that will help protect her from the disease from the time she's born. These antibodies will last for the first few months of her life, when she's most vulnerable to serious disease and complications.

Talk to your doctor or midwife about the whooping cough vaccine.

U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention  
www.cdc.gov/whoopingcough

## Providers

Provide the best prenatal care to prevent pertussis

Strategies for healthcare professionals

5 Facts about Tdap and Pregnancy

- 1. Tdap during pregnancy provides the best protection for mother and infant.**
  - Recommend and administer or refer your patients to receive Tdap during every pregnancy.
  - Optimal timing is between 27 and 36 weeks gestation to maximize the maternal antibody response and passive antibody transfer to the infant.
  - Fewer babies will be hospitalized for and die from pertussis when Tdap is given during pregnancy rather than during the postpartum period.
- 2. Postpartum Tdap administration is NOT optimal.**
  - Postpartum Tdap administration does not provide immunity to the infant, who is most vulnerable to the disease's serious complications.
  - Infants remain at risk of contracting pertussis from others, including siblings, grandparents, and other caregivers.
  - It takes about 2 weeks after Tdap receipt for the mother to have protection against pertussis, which means the mother is still at risk for catching and spreading the disease to her newborn during this time.
- 3. Cocooning alone may not be effective and is hard to implement.**
  - The term “cocooning” means vaccinating anyone who comes in close contact with an infant.
  - It is difficult and can be costly to make sure that everyone who is around an infant is vaccinated.
- 4. Tdap should NOT be offered as part of routine preconception care.**
  - Protection from pertussis vaccines does not last as long as vaccine recipients would like, so Tdap is recommended during pregnancy in order to provide optimal protection to the infant.
  - If Tdap is administered at a preconception visit, it should be administered again during pregnancy between 27 and 36 weeks gestation.
- 5. Tdap can be safely administered earlier in pregnancy if needed.**
  - Pregnant women should receive Tdap anytime during pregnancy if it is indicated for wound care or during a community pertussis outbreak.
  - If Tdap is administered earlier in pregnancy, it should not be repeated between 27 and 36 weeks gestation; only one dose is recommended during each pregnancy.

Strongly recommend Tdap to your patients during the 3<sup>rd</sup> trimester of each pregnancy.

An infant's 1<sup>st</sup> dose of Tdap is the one you give his/her mother during pregnancy

## Patients

You can start protecting your baby from whooping cough before birth

Information for pregnant women



When you get the whooping cough vaccine during your 3<sup>rd</sup> trimester, your baby will be born with protection against whooping cough.

**Why do I need to get a whooping cough vaccine while I am pregnant?**

The whooping cough vaccine is very safe for you and your baby. The most common side effects are mild, like redness, swelling or pain where the shot is given to you. They should go away within a few days. You won't get whooping cough from the vaccine. The vaccine does not contain any live bacteria.

**Doesn't my midwife who specializes in caring for pregnant women agree that the whooping cough vaccine is safe and important to get during the third trimester of each pregnancy. Getting the vaccine during pregnancy does not put an increased risk for pregnancy complications like low birth weight or preterm delivery.**

**If I recently got this vaccine, why do I need to get it again?**

The amount of antibodies in your body is highest about 2 weeks after getting the vaccine, but then starts to decrease over time. That's why this vaccine is recommended during your 3<sup>rd</sup> trimester of pregnancy — so that you'll have good levels of antibodies to protect your baby when she's born.

**Are babies ever getting whooping cough anymore in the United States?**

Yes, but babies are protected from getting whooping cough. We used to think of this as a disease of the past, but it's making a comeback. Recently, we saw the worst case we had seen in 20 years. From 2010, we saw between 10,000 and 20,000 cases of whooping cough each year in the United States. Cases which include people of all ages are reported in every year.

www.cdc.gov/whoopingcough

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

American Academy of Pediatrics  
American College of Obstetricians and Gynecologists  
American College of Nurse-Midwives  
National 2014

## Fact Sheets:

Providers: <http://www.cdc.gov/pertussis/downloads/fs-protecting-before-birth.pdf>  
Mothers: <http://www.cdc.gov/pertussis/downloads/fs-hcp-provide-prenatal-care.pdf>

[www.cdc.gov/pertussis/pregnant](http://www.cdc.gov/pertussis/pregnant)

# Standing Orders

- Protocol enabling assessment of vaccination status and vaccine administration w/o direct physician order
  - Provider offices
  - Health departments
  - Schools & their health centers
  - Pharmacies
  - Commercial vaccinators
- Facilitates adolescents and adults beginning vaccination in one venue and finishing in another



**Strong evidence from over 34 studies with a median increase in immunization coverage from 24-27 percentage points.**

# Standing Orders in MA

- Licensed registered and practical nurses and can administer vaccines using standing orders (BORN Advisory Ruling No. 9804, updated 9-9-15)
  - <http://www.mass.gov/eohhs/gov/departments/dph/programs/hcq/dhpl/nursing/nursing-practice/advisory-rulings/administration-of-immunizing-agents.html>
- Pharmacists (and interns under supervision of a pharmacist) can administer vaccines to adults using standing orders written by a physician (105 CMR 700.004(B)(6)(c)1)
  - <http://www.mass.gov/eohhs/docs/dph/quality/boards/pharmacy/alerts/policy-2015-01.pdf>

IAC model standing orders available at:

<http://www.immunize.org/standing-orders/>

MDPH model standing orders available at:

[www.mass.gov/dph/imm](http://www.mass.gov/dph/imm)



# Project to Increase the Use of Standing Orders

- ✓ This workshop is a one-stop shop to help you easily implement standing orders in your practice.
- ✓ Using standing orders for adult immunizations can help your practice be a leader in quality adult care.

**Interactive workshop led by nationally recognized expert speakers**

**L.J Tan, MS, PhD**, Chief Strategy Officer, Immunization Action Coalition

**William Atkinson, MD, MPH**, Associate Director for Immunization Education, Immunization Action Coalition

**Alexandra Stewart, JD**, Associate Professor, George Washington University

**The Westin Copley Place**  
**June 6, 2016**  
**10:00 am – 2:30 pm**  
**Lunch included**

**REGISTER ONLINE TODAY!**

*Don't delay. Space is limited.*

**[www.StandingOrders.org](http://www.StandingOrders.org)**



# HealthMap Vaccine Finder

- HealthMap Vaccine Finder assists the public with locating influenza and other adult vaccination services in their communities.

HealthMap Vaccine Finder:

<http://flushot.healthmap.org/>

To register Your Clinic with HealthMap Go To:

<https://flushot.healthmap.org/admin/signup/>

HealthMap Vaccine Finder

What Vaccines Do I Need?

Location

No location specified.

Vaccines

- Flu
- Hepatitis A
- Hepatitis B
- HPV
- MMR
- Shingles
- Tdap
- Tetanus

**Flu Vaccine Finder** Find flu clinics near you

Everyone six months of age and older needs a flu vaccine.

powered by HealthMap

VISIT FLU.GOV SHARE THIS WIDGET

## Flu Clinic Website MA Health Officers Association



Planning a Clinic?  
MyLocalClinic  
can help  
Become an  
Organizer

# Affordable Care Act & Clinical Preventive Services

- Under the ACA, ‘nongrandfathered’ private health plans **must provide coverage** for a range of preventive services without cost-sharing
  - those services rated as “A” (strongly recommended) and “B” (recommended) by the U.S. Preventive Services Task Force;
  - vaccinations recommended by ACIP;
  - services recommended under the Bright Futures guidelines developed by HRSA and the American Academy of Pediatrics for children from birth to age 21; and
  - women’s preventive services recommended by HRSA based on an Institute of Medicine study committee





# MA Public Clinic Billing Project

- For 10% fee, CHCF at Commonwealth Medicine electronically bills the participating plans and distributes payments to public providers
  - 10 private health plans and MassHealth participate
- Cities and towns can bill contracted plans for the:
  - Administration of state-supplied flu vaccine to individuals ages 6 months and older
  - Cost of purchasing and administering all recommended vaccines to adults
  - 178 public sector providers across the state participate, representing 214 out of 351 towns in MA
- > \$2 million reimbursed to communities last flu season





## Vaccinations Across the Lifespan

MIIS



# RAPID EXPANSION OF THE MIIS SINCE 2011!

## 2012

- Total Sites: **55**
- Total Patients: **815,928**
- Total Shots: **3,371,434**

## 2011

- Total Sites: **9**
- Total Patients: **3,902**
- Total Shots: **69,505**

## 2014

- Total Sites: **532**
- Total Patients: **2,370,194**
- Total Shots: **13,597,285**

## 2013

- Total Sites: **341**
- Total Patients: **1,539,629**
- Total Shots: **7,303,293**

## 2016

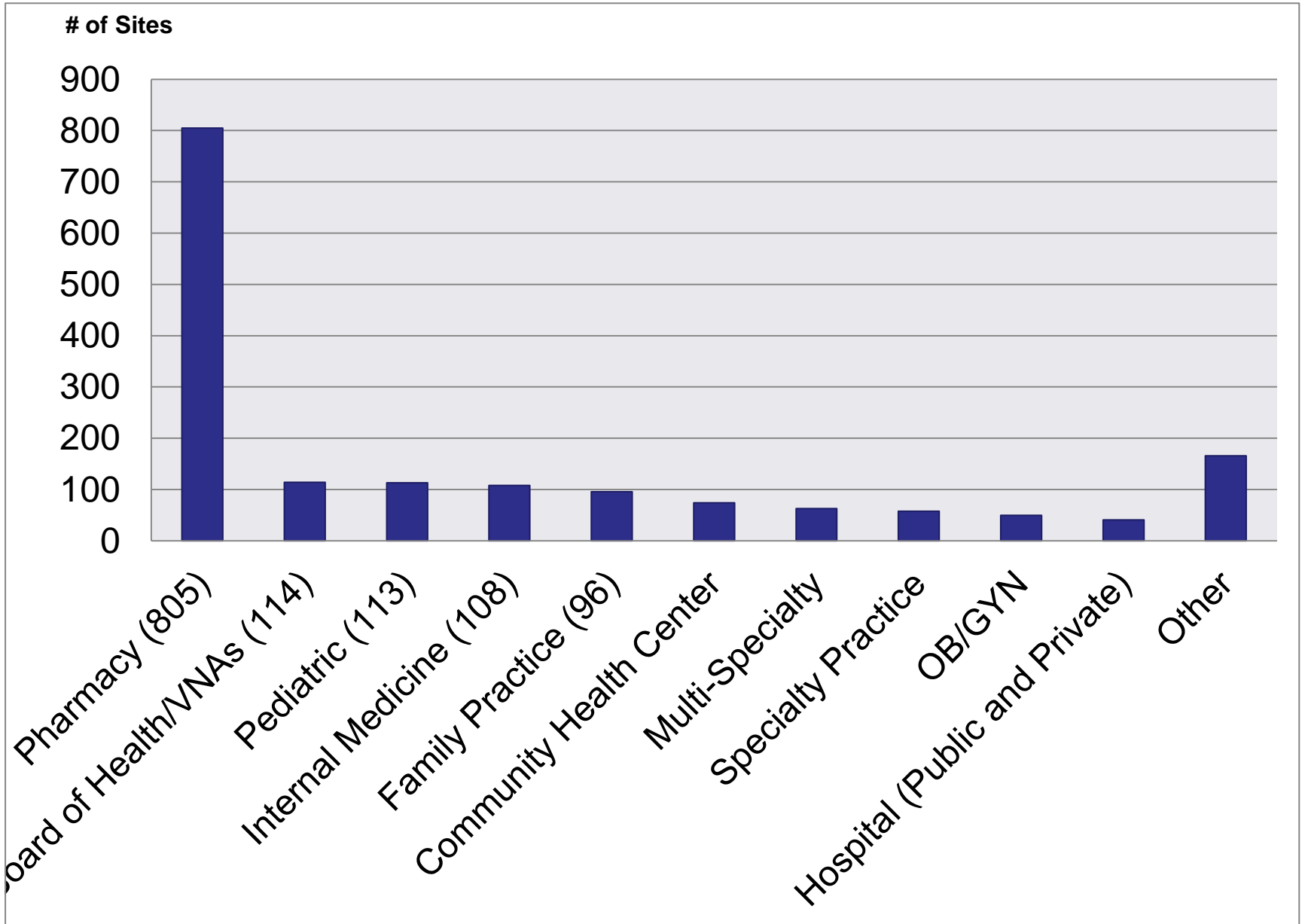
- Total Sites: **1649**
- Total Patients: **4,819,805**
- Total Shots: **33,996,056**

## 2015

- Total Sites: **1121**
- Total Patients: **4,427,623**
- Total Shots: **33,334,571**



# Number of Sites by Practice Type, MIIS



# MIIS Enhancements to Come...

## Late Spring

- Vaccine Recall
- Returns/Storage & Handling
- Flu ceiling/Flu Ordering
- Temperature Log Work List
- Transfer Vaccines Report
- System Usage Dashboard



## Late Summer

- School Module
- Coverage Reports
- Roster Entry



# MDPH Immunization Program



## Contact Information

### Immunization Program Main Number

For questions about immunization recommendations, disease reporting, etc.

- **Phone:** 617-983-6800
- **Fax:** 617-983-6840
- **Website:** [www.mass.gov/dph/imm](http://www.mass.gov/dph/imm)

### MIIS Help Desk

- **Phone:** 617-983-4335
- **Fax:** 617-983-4301
- **Email:** [miishelpdesk@state.ma.us](mailto:miishelpdesk@state.ma.us)
- **Websites:** [www.contactmiis.info](http://www.contactmiis.info) | [www.mass.gov/dph/miis](http://www.mass.gov/dph/miis)

### MDPH Vaccine Unit

- **Phone:** 617-983-6828
- **Fax:** 617-983-6924
- **Email:** [dph-vaccine-management@state.ma.us](mailto:dph-vaccine-management@state.ma.us)
- **Website:** [www.mass.gov/dph/imm](http://www.mass.gov/dph/imm) (click on Vaccine Management)



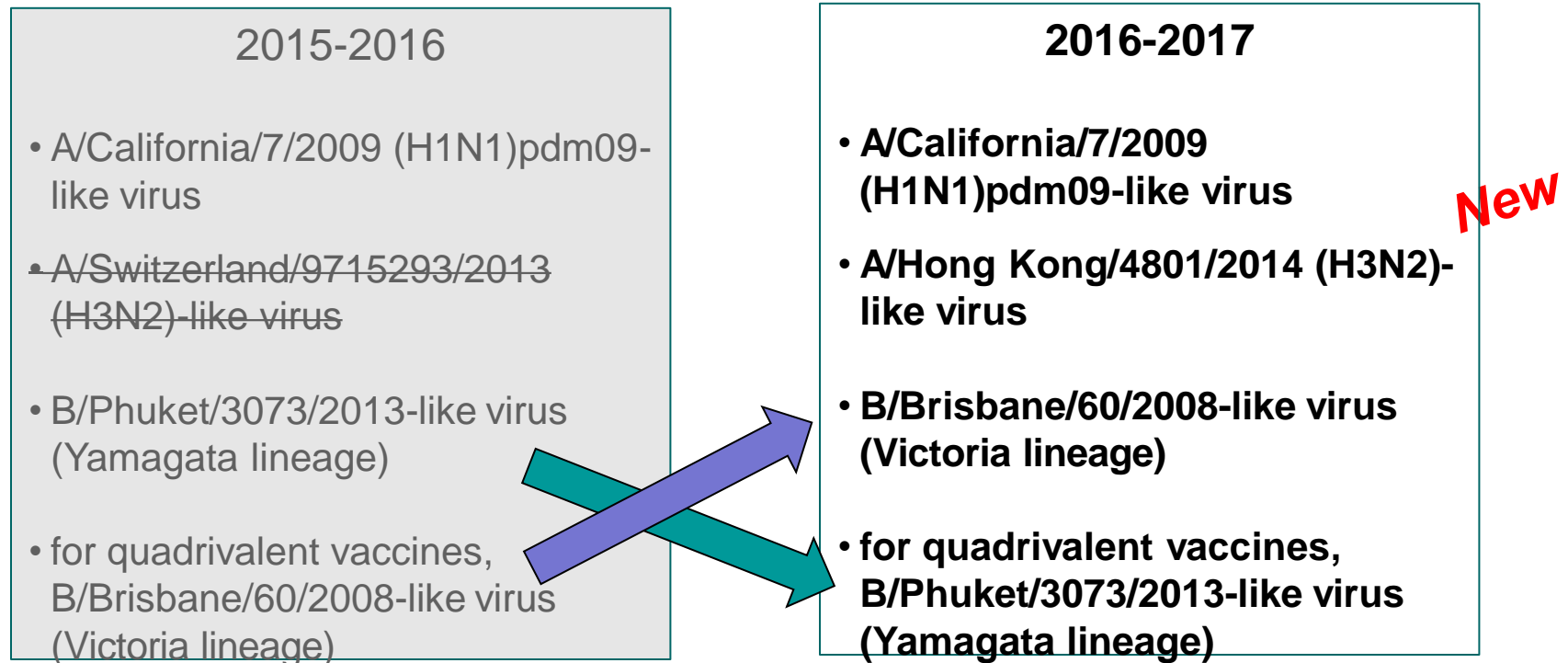
**EXTRAS**



# Vaccine Strain Selection for 2016-2017 Seasons

For 2016-17, WHO recommended a new H3N2 component.

The B components switched places, from IIV3 to IIV4, compared to the 2015-16 Northern Hemisphere vaccine:



# MDPH Vaccine Safety and Confidence Website

- Identifies the most helpful and reliable sources of information.
- Sections:
  - Information for Providers
  - Information for Parents
  - Vaccine Approval and Monitoring
  - Vaccine Information Statements
  - Vaccine Adverse Events Reporting System
  - Vaccine Administration Error Reporting



The Official Website of the Executive Office of Health and Human Services

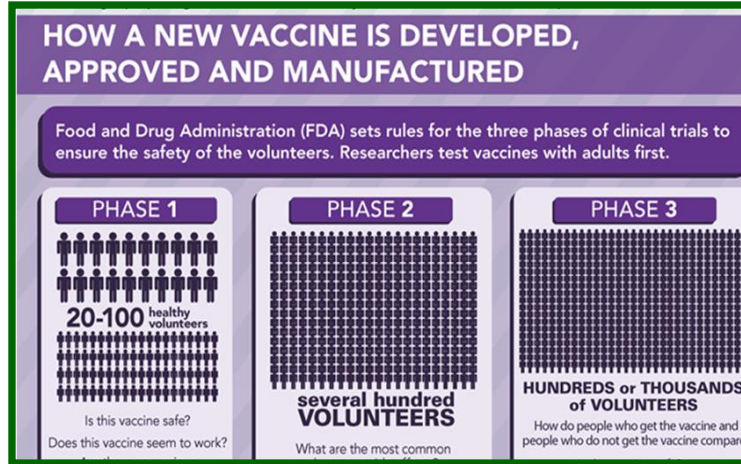
## Health and Human Services

Departments & Divisions

A-Z Topic Index    Health Care & Insurance    Consumer

Home > Government Agencies > Departments & Divisions > Public Health

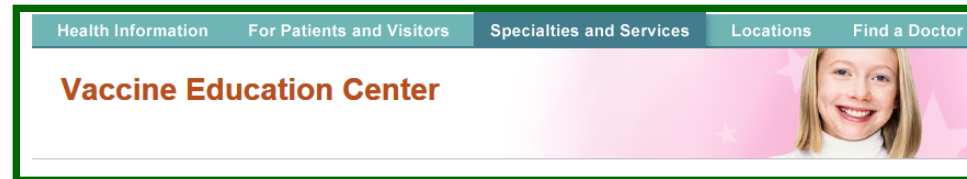
### Vaccine Safety



### HOW A NEW VACCINE IS DEVELOPED, APPROVED AND MANUFACTURED


Food and Drug Administration (FDA) sets rules for the three phases of clinical trials to ensure the safety of the volunteers. Researchers test vaccines with adults first.

PHASE 1	PHASE 2	PHASE 3
20-100 healthy volunteers	several hundred VOLUNTEERS	HUNDREDS or THOUSANDS of VOLUNTEERS
Is this vaccine safe? Does this vaccine seem to work?	What are the most common	How do people who get the vaccine and people who do not get the vaccine compare



Health Information    For Patients and Visitors    Specialties and Services    Locations    Find a Doctor

## Vaccine Education Center



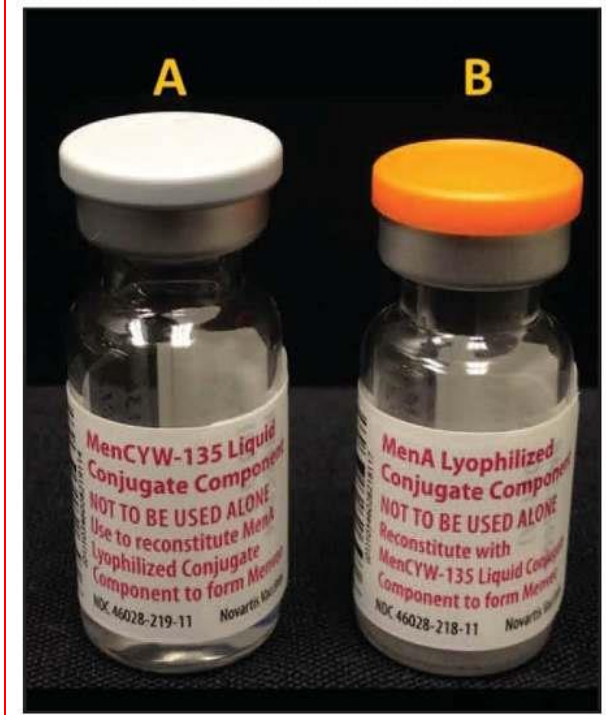
<http://www.mass.gov/eohhs/gov/departments/dph/programs/id/immunization/vaccine-safety.html>

# Menveo Administration Errors

CDC. MMWR 2016;65:161-162.

<http://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6506.pdf>

FIGURE. Labels for the two components of Menveo conjugate meningococcal vaccine, liquid MenCYW-135 (A) and lyophilized MenA (B), both indicating that neither component is to be used alone



# Menveo Administration Errors March 2010 – September 2015

Morbidity and Mortality Weekly Report

## Notes from the Field

### Administration Error Involving a Meningococcal Conjugate Vaccine — United States, March 1, 2010–September 22, 2015

John R. Si, MD<sup>1</sup>; Elaine R. Miller, MPH<sup>1</sup>; Jonathan Duffy, MD<sup>1</sup>; Anthony M. Barr, MD<sup>1</sup>; Maria V. Cano, MD<sup>1</sup>

Menveo (GSKSmithKline, previously Novartis AG) is a conjugate vaccine that was recommended in October 2010 for routine use in adolescents (preferably aged 11 or 12 years, with a booster at 16 years), and among persons aged 2 through 54 years with certain immunosuppressive conditions, to prevent invasive meningococcal disease caused by *Neisseria meningitidis* serogroups A, C, Y, and W-135 (1). These recommendations have since been updated (2). Menveo is supplied in two vials that must be combined before administration. The MenA lyophilized (freeze-dried) component must be reconstituted with the MenCYW-135 liquid component (Figure). To administer the vaccine, the liquid component is drawn into a syringe, and used to reconstitute the lyophilized component. The resulting solution is administered by intramuscular injection. Failure to prepare Menveo as directed by the manufacturer's instructions can lead to lack of protection against the intended pathogens (*N. meningitidis* serogroups A, C, Y, and/or W-135) (3). Recently, an immunization provider administered only the lyophilized component of Menveo, subsequently administered a properly prepared dose of Menveo to the same patient, and asked CDC if this practice was safe. This question prompted CDC to search the Vaccine Adverse Event Reporting System (VAERS) database for reports during March 1, 2010–September 22, 2015, of only one component of Menveo being administered. Additionally, to more broadly identify disproportional reporting of adverse events in general following Menveo immunization compared with other vaccines in VAERS (including errors in vaccine preparation and administration), the Food and Drug Administration performed data mining with empiric Bayesian methods (4).

There were 390 reports of administration of only one component of Menveo to a total of 407 recipients. A total of 269 (69%) recipients received only the liquid MenCYW-135 component, and 138 recipients received only the lyophilized MenA component, reconstituted in sterile water, saline, a different liquid vaccine (hepatitis B vaccine in two cases, and diphtheria-tetanus-acellular pertussis [DTaP] vaccine in one case) or an unspecified diluent. Six reports described clusters of events: five described administration of only the liquid MenCYW-135 component to a total of 21 recipients, and one described administration of only the lyophilized MenA

FIGURE. Labels for the two components of Menveo conjugate meningococcal vaccine, liquid MenCYW-135 (A) and lyophilized MenA (B), both indicating that neither component is to be used alone



component to two recipients. Among 314 recipients whose sex was reported, 160 (51%) were male. The median age of 293 recipients with known age was 15 years (range = 0–65 years); 87% were aged 11–20 years. Among all 407 recipients, 346 (85%) experienced no adverse event; the reported adverse events included redness, fever, and pain. Medical Dictionary for Regulatory Activities (MedDRA) preferred terms\* that were reported at least twice as frequently as expected for Menveo (compared with all other vaccines) were all associated with administration of only one component of Menveo.

\*Vaccination providers should follow the instructions provided with Menveo (including vaccine labeling, packaging, and product insert) regarding proper administration. Vaccines

MedDRA (<http://www.meddra.org/how-to-use/support-documentation/english>) provides a standardized vocabulary of medical terminology to facilitate sharing of regulatory information. MedDRA terms are hierarchical, from very specific low-level terms that are grouped into "preferred terms," to broad groups of terms regarding organ systems. For this analysis, preferred terms were the most appropriate level of specificity for data mining.

US Department of Health and Human Services/Centers for Disease Control and Prevention

MMWR / February 19, 2016 / Vol. 65 / No. 6

161

- Menveo is supplied in two vials that must be combined before administration.
- The MenA lyophilized (freeze-dried) component must be reconstituted with the MenCYW-135 liquid component.
- To administer, the liquid component is drawn into a syringe, and used to reconstitute the lyophilized component.
- The resulting solution is administered by intramuscular injection.

## VAERS REPORTS (3/1/2010 – 9/22/2015)

390 reports of only one component administered to 407 recipients (which is twice as high as expected)

- 66% received only the liquid MenCYW-135 portion
- 34% received only the lyophilized MenA component reconstituted a variety of ways (including with other liquid vaccines)
- No adverse events were identified

# Recommendations to Avoid Menveo Administration Errors

- Providers should follow instructions that come with Menveo (including vaccine labeling, packaging, and product insert) regarding proper administration.
- Vaccines requiring reconstitution should **only** be reconstituted with the specific diluent supplied by the manufacturer for that vaccine.
- A recipient who receives an improperly prepared dose of Menveo should receive a repeat dose of MCV prepared according to manufacturer instructions; this repeat dose can be administered at any time.
- However, because serogroup A meningococcal disease is rare in the United States, patients only receiving the liquid MenCYW-135 component of Menveo might not need revaccination, unless international travel is anticipated (especially travel to Africa).

# Vaccines with Diluents: How to Use Them

Be sure to reconstitute the following vaccines correctly before administering them! Reconstitution means that the lyophilized (freeze-dried) vaccine powder or wafer in one vial must be reconstituted (mixed) with the diluent (liquid) in another.

- Only use the diluent provided by the manufacturer for that vaccine as indicated on the chart.
- ALWAYS check the expiration date on the diluent and vaccine. NEVER use expired diluent or vaccine.

Vaccine product name	Manufacturer	Lyophilized vaccine (powder)	Liquid diluent (may contain vaccine)	Time allowed between reconstitution and use, as stated in package insert <sup>2</sup>	Diluent storage environment
ActHIB (Hib)	Sanofi Pasteur	Hib	0.4% sodium chloride	24 hrs	Refrigerator
Hiberix (Hib)	GlaxoSmithKline	Hib	0.9% sodium chloride	24 hrs	Refrigerator or room temp
Imovax (RAB <sub>HDCV</sub> )	Sanofi Pasteur	Rabies virus	Sterile water	Immediately <sup>†</sup>	Refrigerator
M-M-R II (MMR)	Merck	MMR	Sterile water	8 hrs	Refrigerator or room temp
MenHibrix (Hib-MenCY)	GlaxoSmithKline	Hib-MenCY	0.9% sodium chloride	Immediately <sup>†</sup>	Refrigerator or room temp
Menomune (MPSV4)	Sanofi Pasteur	MPSV4	Distilled water	Single-dose vial: Immediately <sup>†</sup> Multidose vial: 35 days	Refrigerator
Menveo (MCV4)	Novartis	MenA	MenCWY	8 hrs	Refrigerator
Pentacel (DTaP-IPV/Hib)	Sanofi Pasteur	Hib	DTaP-IPV	Immediately <sup>†</sup>	Refrigerator
ProQuad (MMRV)	Merck	MMRV	Sterile water	30 min	Refrigerator or room temp
RabAvert (RAB <sub>PCECV</sub> )	Novartis	Rabies virus	Sterile water	Immediately <sup>†</sup>	Refrigerator
Rotarix (RV1) <sup>‡</sup>	GlaxoSmithKline	RV1	Sterile water, calcium carbonate, and xanthan	24 hrs	Refrigerator or room temp
Varivax (VAR)	Merck	VAR	Sterile water	30 min	Refrigerator or room temp