Disclosure

The Immunization Action Coalition has been responsible for all aspects of content development for the enclosed presentation and all other assets supporting the *Take a Stand™* program. Any questions should be directed to the Immunization Action Coalition.

Pfizer is supporting this initiative because it provides focus on the importance of adult immunization. Pfizer has had no role in the creation of content for this presentation or other assets supporting the *Take a Stand™* program workshops and therefore accepts no responsibility for the content.
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.
Session 1
Why Adult Immunization Matters

Susan M. Lett, MD, MPH
Medical Director Immunization Program
Massachusetts Department of Public Health
Outline

• Review the burden of adult vaccine-preventable diseases in the United States and Massachusetts

• Review adult vaccination coverage in the United States and Massachusetts

• Discuss the changing environment for adult immunization
The Burden of Adult Vaccine-Preventable Diseases
Burden of Vaccine-preventable Disease Among U.S. Adults

• **Influenza**
  – 3,000 to 49,000 total influenza-related deaths per year\(^1\)
  – 80% – 90% of deaths among adults ≥ 65 years\(^2\)

• **Invasive pneumococcal disease (IPD)**\(^3\)
  – 33,900 cases/ 3,700 deaths in 2013
  – 91% of IPD cases and nearly all IPD deaths were among adults

• **Pertussis in 2014**\(^4\)
  – ~24,000 cases
  – >5,000 among adults ≥ 20 years of age

• **Hepatitis B**\(^5\)
  – 3,050 acute cases reported in 2013
  – ~19,800 estimated

• **Zoster**\(^6\)
  – ~1 million cases of zoster annually U.S.

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1. MMWR. 010;59(33): 1057‐1062.
2. [http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0066312](http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0066312)
**Estimated Human and Economic Burden Caused by 4 Major Adult VPDs in 2013, U.S.**
(includes only adults ≥ 65 years of age)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Cases</th>
<th>Medical</th>
<th>Indirect</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>4,019,759</td>
<td>7,503</td>
<td>810</td>
<td>8,313 M (8.3B)</td>
</tr>
<tr>
<td>Pneumococcal disease</td>
<td>440,187</td>
<td>3,572</td>
<td>215</td>
<td>3,787 M (3.7B)</td>
</tr>
<tr>
<td>Herpes zoster</td>
<td>555,989</td>
<td>1,309</td>
<td>1,709</td>
<td>3,017 M (3.0B)</td>
</tr>
<tr>
<td>Pertussis</td>
<td>207,241</td>
<td>90</td>
<td>123</td>
<td>213 M</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,223,176</strong></td>
<td><strong>$12,474</strong></td>
<td><strong>$2,856</strong></td>
<td><strong>$15,330 M (15.3B)</strong></td>
</tr>
</tbody>
</table>
Vaccine Preventable Diseases in Massachusetts
## Investigations vs. Confirmed* Cases

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>231</td>
<td>39</td>
<td>170</td>
<td>34</td>
</tr>
<tr>
<td>Measles*</td>
<td>111</td>
<td>8</td>
<td>119</td>
<td>0</td>
</tr>
<tr>
<td>Mumps*</td>
<td>121</td>
<td>5</td>
<td>154</td>
<td>6</td>
</tr>
<tr>
<td>Polio</td>
<td>30</td>
<td>0</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>Rubella*</td>
<td>21</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Pertussis</td>
<td>413</td>
<td>298</td>
<td>337</td>
<td>252</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>911</strong></td>
<td><strong>350</strong></td>
<td><strong>807</strong></td>
<td><strong>292</strong></td>
</tr>
</tbody>
</table>

*Includes probable cases to more accurately reflect true burden of disease.
Mumps Outbreak 2016

- 98 confirmed in MA (as of 6/3/16)
  - 63 confirmed cases at Harvard
  - Cases confirmed at seven other Boston-area universities
  - Probable cases at two other universities
  - 47 M/51 F (Age range 15-69 – Median age 20)
  - Majority with two MMR doses
- >450 suspect cases investigated since 2/15/2016

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

• Five cases in two months starting in late January among homeless people with ties to Boston – very unusual – 4 males/1 female
• Two deaths
• Antibiotic prophylaxis to close contacts : ~280 individuals
• Two serogroup C; three serogroup Y (matching molecular profiles)
• Large vaccination campaigns – over 4000 received vaccine
• Case-control interviews to determine risk factors
Measles 2016

- Visitor from Europe
- Vaccination history unknown
- Several days of malaise
- Developed fever, rash and cough
- Negative for influenza
- Hundreds exposed at several large public locations (May 1-5)
- And at one large hospital (May 5-8)
Tdap? Why bother? There were only 252 confirmed cases in MA in 2015.

- Pertussis is common in the U.S. with peaks in reported disease every 3 to 5 years and frequent outbreaks.
- 48,277 cases of pertussis were reported to CDC during 2012. 651 in MA.
- 20 pertussis-related deaths nationally in <5yrs old in 2012.
  - First infant death in MA in 10 years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Reported Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>7,867</td>
</tr>
<tr>
<td>2001</td>
<td>7,580</td>
</tr>
<tr>
<td>2002</td>
<td>9,771</td>
</tr>
<tr>
<td>2003</td>
<td>11,647</td>
</tr>
<tr>
<td>2004</td>
<td>25,827</td>
</tr>
<tr>
<td>2005</td>
<td>25,616</td>
</tr>
<tr>
<td>2006</td>
<td>15,632</td>
</tr>
<tr>
<td>2007</td>
<td>10,454</td>
</tr>
<tr>
<td>2008</td>
<td>13,278</td>
</tr>
<tr>
<td>2009</td>
<td>16,858</td>
</tr>
<tr>
<td>2010</td>
<td>27,550</td>
</tr>
<tr>
<td>2011</td>
<td>18,719</td>
</tr>
<tr>
<td>2012</td>
<td><strong>48,277</strong></td>
</tr>
<tr>
<td>2013</td>
<td>28,639</td>
</tr>
<tr>
<td>2014</td>
<td>32,971</td>
</tr>
<tr>
<td>2015</td>
<td>18,166</td>
</tr>
</tbody>
</table>

Get vaccinated!
1996: Acellular pertussis vaccine licensed, 1999 used in MA

2005: Tdap licensed for adolescents & adults

2013: Tdap recommended for every pregnancy
2015-2016 Influenza Season
National Summary

• Moderate season

• Peak in early March
  – One of latest peaks on record

• Influenza A (H1N1) predominated

• Flu hospitalization rates highest in those ≥65 yrs, followed by those 50-64 yrs and then children <5 years

• Circulating strains appeared to be a good match with the vaccine.

• Vaccine Efficacy Overall: 60%
  – 51 %: H1N1 viruses
  – 76 %: B viruses
  – 79 %: B/Yamagata.

*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
Massachusetts Influenza-like Illness (ILI) as of 5/21/2016

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

2015-2016: 67 ILI Clusters (5/24/16)
2013-2014: 100 ILI Clusters as of 4/29/14
2012-2013: 129 ILI Clusters
2011-2012: 52 ILI Clusters

MMWR Week 20
May 15 - 21, 2016

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

• Important for optimizing health, and protecting those vaccinated and their contacts
  – Example: Vaccination against influenza and pertussis reduces the risk for the person vaccinated and also prevents the person from spreading these diseases to others
### 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 group

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

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](http://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/vaccinereimbursement](http://www.hrsa.gov/vaccinereimbursement) or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 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](http://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 America College of Physicians (ACP), the American College of Obstetricians and Gynecologists (ACOG) and the American College of Nurse-Midwives (ACNM).

### Figure 2. Vaccines that might be indicated for adults aged 19 years or older based on medical and other indications

<table>
<thead>
<tr>
<th>VACCINE</th>
<th>INDICATION</th>
<th>Pregnancy</th>
<th>Immunocompromising conditions (excluding HIV infection)</th>
<th>HIV infection (CD4+ count)</th>
<th>Men who have sex with men (MSM)</th>
<th>Kidney failure, end-stage renal disease, on hemodialysis</th>
<th>Heart disease, chronic lung disease, chronic alcoholism</th>
<th>Asplenia and persistent complement component deficiencies</th>
<th>Chronic liver disease</th>
<th>Diabetes</th>
<th>Healthcare personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza*</td>
<td></td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)*</td>
<td>1 dose Tdap each pregnancy</td>
<td></td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella*</td>
<td>Contraindicated</td>
<td></td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV) Female*</td>
<td>3 doses through age 26 yrs</td>
<td></td>
<td>3 doses through age 26 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV) Male*</td>
<td>3 doses through age 26 yrs</td>
<td></td>
<td>3 doses through age 21 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster*</td>
<td>Contraindicated</td>
<td></td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)*</td>
<td>Contraindicated</td>
<td></td>
<td>1 or 2 doses depending on indication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal 13-valent conjugate (PCV13)*</td>
<td>1 dose</td>
<td></td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV23)*</td>
<td>1, 2, or 3 doses depending on indication</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A*</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B*</td>
<td></td>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal 4-valent conjugate (MenACWY) or polysaccharide (MPSV4)*</td>
<td>1 or more doses depending on indication</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)*</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenza type b (Hib)*</td>
<td>3 doses post-HSCT recipients only</td>
<td></td>
<td>1 dose</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*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

Contraindicated

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly recommended for adults aged ≥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.
The vaccines are effective!
Influenza vaccine effectiveness depends on:

• How you decide if someone has influenza

• What population you study-most vaccines work less well in the very young and very old

• What you mean by effective:
  – Prevents death
  – Prevents hospitalization
  – Prevents a visit to the doctor or emergency room
  – Prevents any symptoms
Effectiveness

*Influenza vaccine*

CDC. MMWR 2013;62(RR-7):1
Medically-attended disease with good vaccine match
http://www.mynycdoctor.com/tests-for-influenza-a-b/
Effectiveness

Zoster vaccine

Oxman. NEJM 2005;352:2271

PHN, post-herpetic neuralgia
Effectiveness

Hepatitis B vaccine

CDC. MMWR 2011;60:1709
www.mcemcourses.org/caseoftheweek/case-9/
Pregnant Women

Two-for-one vaccination!

www.porticostory.org/content/BLOG/BLOG.asp
Effectiveness

**PCV13**

Bonten. NEJM 2015;372:1114
PCV13, vaccine-type infection
www.wisegeek.net/what-is-pneumococcal-pneumonia.htm
Vaccination Coverage in Massachusetts
## MA Flu Vaccination Rates

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyone 6 mos+</td>
<td>53%</td>
<td>#3 55%</td>
<td>47%</td>
</tr>
<tr>
<td>Children 6 mos – 17 yrs</td>
<td>72%</td>
<td>#2 76%</td>
<td>59%</td>
</tr>
<tr>
<td>- Children 6 mos – 4 yrs</td>
<td>87%</td>
<td>81%</td>
<td>70%</td>
</tr>
<tr>
<td>- Children 5 – 12 yrs</td>
<td>72%</td>
<td>#3 78%</td>
<td>62%</td>
</tr>
<tr>
<td>- Adolescents 13 – 17 yrs</td>
<td>61%</td>
<td>#1 71%</td>
<td>47%</td>
</tr>
<tr>
<td>Adults 18 +</td>
<td>49%</td>
<td>50%</td>
<td>44%</td>
</tr>
<tr>
<td>- Adults 18 – 64 y/o</td>
<td>45%</td>
<td>45%</td>
<td>38%</td>
</tr>
<tr>
<td>- Adults HR 18 – 64 y/o</td>
<td>58%</td>
<td>53%</td>
<td>48%</td>
</tr>
<tr>
<td>- Adults 50 – 64 y/o</td>
<td>51%</td>
<td>53%</td>
<td>47%</td>
</tr>
<tr>
<td>- Adults 65+</td>
<td>64%</td>
<td>67%</td>
<td>67%</td>
</tr>
</tbody>
</table>

2014-15 National Immunization Survey (NIS) and Behavioral Risk Factor Surveillance System (BRFSS)
Influenza Vaccination Rates, MA Pregnant Women, 2009-2013

Percent of Women with a Live Birth

Source: MA PRAMS

DPH 2016
Influenza Vaccination by Race/Ethnicity, MA Pregnant Women, 2012 vs. 2013

Source: MA PRAMS

*Statistically significant
## Adult Vaccination Rates, MA and US, 2013-14

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

*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
Tools in MA that Help Improve Immunization Rates

• Partnerships
  – Collaborations to reduce disparities
• Tools to address vaccine confidence
• Evidence-based clinical guidance
• More vaccinators in more venues
  – Immunization Neighborhood
• Health care reform since 2006
• Public Sector Billing Program
• Lifespan immunization registry
  – Consolidates records and shares information
  – Clinical decision support
Healthcare Reform - MA

- State health care reform began in 2006
- Overall 97% of residents are insured
- 98% of children and >99% seniors are insured — young adults remain a challenge, but have made great gains
- Racial and ethnic disparities have been reduced
- Community health centers provide a critical safety net — 285 access sites representing 49 organizations

**Challenges**

- Ongoing integration with the Affordable Care Act of 2010
- Gaps remain in ensuring adequate coverage for adults

http://bluecrossmafoundation.org/about-us
• **Lifespan immunization registry**
  - Total sites: 1,649
  - Total patients: 4.8 million
  - Total shots: 33.9 million

• **Clinical decision support**
  - Dr. Bill Adams

---

**Number of Sites by Practice Type, MIIS**

<table>
<thead>
<tr>
<th>Practice Type</th>
<th># of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy (805)</td>
<td>1000</td>
</tr>
<tr>
<td>Board of...</td>
<td>800</td>
</tr>
<tr>
<td>Pediatric (113)</td>
<td>600</td>
</tr>
<tr>
<td>Internal...</td>
<td>400</td>
</tr>
<tr>
<td>Family...</td>
<td>300</td>
</tr>
<tr>
<td>Community...</td>
<td>200</td>
</tr>
<tr>
<td>Multi-Specialty...</td>
<td>100</td>
</tr>
<tr>
<td>Specialty...</td>
<td>80</td>
</tr>
<tr>
<td>OB/GYN...</td>
<td>60</td>
</tr>
<tr>
<td>Hospital...</td>
<td>40</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
</tr>
</tbody>
</table>
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
Yet, we are failing to vaccinate our adult population!
In Massachusetts...

- 59% of adults ≥ 18 have not received Tdap
- 61% ≥ 60 have not received zoster
- 38% ≥ 65 have not received pneumococcal vaccine
- 64% of HR adults 18 – 64 have not received pneumococcal vaccine
- 50% of adults 18+ do not receive annual flu vaccine
### US Adult Coverage

#### Disparities by race

<table>
<thead>
<tr>
<th>Vaccination, Group (yrs)</th>
<th>Whites</th>
<th>Disparity from Coverage in Whites</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Blacks</td>
</tr>
<tr>
<td>Tetanus, ≥65</td>
<td>59.6</td>
<td>-19.3</td>
</tr>
<tr>
<td>Tetanus, 19–49</td>
<td>69.0</td>
<td>-14.9</td>
</tr>
<tr>
<td>Pneumo, ≥65</td>
<td>63.6</td>
<td>-14.9</td>
</tr>
<tr>
<td>Zoster, ≥60</td>
<td>27.4</td>
<td>-16.7</td>
</tr>
<tr>
<td>HPV, females 19–26</td>
<td>41.7</td>
<td>-11.1</td>
</tr>
</tbody>
</table>
Other Ramifications...

“By failing to prepare, we are preparing to fail”
- Benjamin Franklin

• Leaves us vulnerable during times of crisis when the ability to reach 250 million adults with vaccines/medications is crucial
  – Pandemic influenza

• Our failure to successfully immunize adults in healthy times predicts our failure to immunize them in times of crisis
What factors lead to low adult immunization coverage?

- Patient Factors
- Office Factors
- System Factors
Factors Associated with Low Vaccination Among Adults

• **Patient factors**
  – May not have regular HCP or only see specialists
  – Inconvenient access, competing social and economic demands
  – Many adults 18–64 y/o unaware of ACA vaccination coverage, and many still remain uninsured

• **Provider factors**
  – Many other health issues compete with preventive services
  – Lack of provider recommendation
  – Lack of effective reminders to offer vaccinations

• **System factors**
  – Fewer requirements for vaccination (e.g., by employers)
  – State regulations differ on who can vaccinate and what vaccines are allowed (e.g., pharmacists, visiting nurse associations)

• **Complex adult vaccine schedule**
Some Adult Immunization Facts

• Challenges
  – Vaccine coverage among adults is unacceptably low
  – Limited adult awareness about need for vaccines
  – Adult vaccination less integrated into clinical practice

• Opportunities
  – Most patients willing to get vaccinated when recommended by medical providers
  – Primary care providers believe that immunization is an important service they provide to patients
  – Systematic offering (e.g., through standing orders) and recommendations from clinicians result in higher uptake
US Community Services Task Force: Healthcare Provider- or System-Based Strategies

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Status of Task Force Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider reminder systems when used alone</td>
<td>Recommended (Strong evidence)</td>
</tr>
<tr>
<td>Provider assessment and feedback</td>
<td>Recommended (Strong evidence)</td>
</tr>
<tr>
<td>Standing orders</td>
<td>Recommended (Strong evidence)</td>
</tr>
<tr>
<td>Provider education when used alone</td>
<td>Insufficient evidence</td>
</tr>
<tr>
<td>Health care-based interventions when implemented in combination</td>
<td>Recommended (Strong evidence)</td>
</tr>
</tbody>
</table>

[www.thecommunityguide.org/vaccines/universally/index.html]
Office Factors (examples)

- Other health issues compete with preventive services
- Practice culture (“Vaccines are for kids!”)
- Hours are inconvenient for working adults
- Lack of effective vaccination prompts to providers
- Lack of provider recommendation to patients

Patient Factors

Office Factors

System Factors

You can intervene here!
How can my office vaccinate more adults?
Meta-Analysis of Interventions to Increase Use of Adult Immunization

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Odds Ratio*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational change (e.g., standing orders, separate clinics devoted to prevention)</td>
<td>16.0</td>
</tr>
<tr>
<td>Provider reminder</td>
<td>3.8</td>
</tr>
<tr>
<td>Provider education</td>
<td>3.2</td>
</tr>
<tr>
<td>Patient financial incentive</td>
<td>3.4</td>
</tr>
<tr>
<td>Patient reminder</td>
<td>2.5</td>
</tr>
<tr>
<td>Patient education</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*Compared to usual care or control group, adjusted for all remaining interventions

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)

• 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)
  - Joint Policy Pharmacist and Pharmacy Intern Administration of Vaccines, updated 4-7-2015


MDPH model standing orders available at: [www.mass.gov/dph/imm](http://www.mass.gov/dph/imm)
New Standards for Adult Immunization Practice*

- Stresses that all providers, including those who don’t provide vaccine services, have a role in ensuring patients are up to date on vaccines
- Acknowledges that:
  - Adult patients may see many different health care providers, some of whom do not stock some or all vaccines
  - Adults may get vaccinated in a medical home, at work, or retail setting
- Aim is to avoid missed opportunities and keep adult patients protected from vaccine-preventable diseases

* www.izsummitpartners.org/adult-immunization-standards
New Standards for Adult Immunization Practice (cont.)

• Calls to action for health care professionals
  – **Assess** immunization status of all patients in every clinical encounter.
  – **Strongly recommend** vaccines that patients need.
  – **Administer** needed vaccines or refer to a provider who can immunize.
  – **Document** vaccines given to patients, including entering them into immunization registries when available.

www.publichealthreports.org/issueopen.cfm?articleID=3145
Conclusions

• Substantial burden of disease in adults for which vaccines are available
• Vaccination rates low among adults in U.S.
• New *Standards for Adult Immunization Practice* emphasize the importance of assessing need for vaccines and providing vaccinations
Conclusions (cont.)

• U.S. Community Services Task Force highlights the use of systems-based interventions to improve immunization rates, including the implementation of standing orders

• Many tools and resources available to:
  – Educate patients on the importance of vaccination
  – *Take A Stand™*: first of its kind national initiative to assist practices to implement vaccination standing orders
Resources

• **Take A Stand™**
  – www.standingorders.org

• **Read IAC publications**
  – www.immunize.org/publications

• **Visit IAC websites**
  – www.immunize.org
  – www.vaccineinformation.org
  – www.izsummitpartners.org

• **Stay ahead of the game!**
  **Subscribe to IAC weekly updates**
  – www.immunize.org/subscribe
Massachusetts Adult Immunization Coalition (MAIC)

- A collaborative partnership dedicated to increasing adult immunization through education, networking, and sharing innovative and best practices.
- There are currently over 200 members
- Co-Facilitators:
  - Robyn Alie, Massachusetts Medical Society
  - Rebecca Vanucci, MDPH Immunization Program
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
- **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
- **Website:** [www.mass.gov/dph/imm](http://www.mass.gov/dph/imm) (click on Vaccine Management)
THANK YOU!