Update on Seasonal Influenza

Massachusetts Public Health Council
November 13, 2013

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DPH’s Core Public Health Readiness

• DPH actively monitors influenza activity as part of the national surveillance system:
  • Conducts enhanced surveillance via MAVEN
  • Sentinel clinical sites provide information about influenza-like illness among presenting patients
  • Number of hospitalized patients with confirmed flu
  • Deaths among persons with confirmed flu
  • Also monitors immunization rates in the general public and among healthcare personnel

• DPH assists facilities with outbreaks and clusters with:
  • Surge capacity and hospital readiness
  • Vaccine and medication availability
  • Infection control policies and practices

• DPH distributes print and online materials:
  • Information on core prevention practices
  • Fact sheets on influenza
  • Posters caring for persons with influenza at home
  • Public information materials on the flu vaccine
National Influenza Activity Summary
2012-2013 Season

- Influenza activity in the US during the 2012–13 season began approximately 4-weeks earlier than usual, occurred at moderately high levels, and was moderately severe.

- Influenza A viruses predominated overall (70%), with influenza B viruses also circulating (30%) and predominating at end of season.

- Over 90% of the viruses were well matched to vaccine.

- Overall vaccine effectiveness (32-66% depending on age) – more effective in preventing severe illness and hospitalization.
Influenza-like Illness in MA
2012-13 Season vs. 2010-11 and 2011-12

2012-2013 peaked 6-8 weeks earlier.
Massachusetts Laboratory-confirmed Influenza Cases and Influenza-like Illness, 2012 - 2013
Pediatric Deaths
Median = Age 8 yrs.
Flu A/H3 = 22%
Flu A/H1 = 3%
Flu B = 53%
Pediatric Influenza-related Deaths in Massachusetts, 2012-2013

- Five Massachusetts influenza-associated pediatric deaths, 2012-2013:
  - All male, ages 1-17 (four school-aged, including preschool)
  - 4 of 5 were unvaccinated
    - 5th child had only one of the two recommended doses
  - 3 of 5 had significant underlying medical conditions
  - 2 of 5 had influenza A; 3 had influenza B
  - All 5 had rapid onsets and rapid progression of illness.
    - 2 of 5 found unresponsive at home.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Trade name</th>
<th>Manufacturer</th>
<th>Presentation</th>
<th>Mercury content (mcg Hg/0.5 mL)</th>
<th>Age indications</th>
<th>Route</th>
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</thead>
<tbody>
<tr>
<td>Inactivated Influenza Vaccine, Trivalent††† (IIV3), Standard Dose</td>
<td>Afluria®</td>
<td>CSL Limited</td>
<td>0.5 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>≥9 yrs.***</td>
<td>IM†</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>5.0 mL multidose vial</td>
<td>24.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fluarix®</td>
<td>GlaxoSmithKline</td>
<td>0.5 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>≥3 yrs.</td>
<td>IM†</td>
</tr>
<tr>
<td></td>
<td>Flucelvax®§§§</td>
<td>Novartis Vaccines</td>
<td>0.5 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>≥18 yrs.</td>
<td>IM†</td>
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<tr>
<td></td>
<td>FluLaval®</td>
<td>ID Biomedical Corporation of Quebec (distributed by GlaxoSmithKline)</td>
<td>5.0 mL multidose vial</td>
<td>&lt;25.0</td>
<td>≥18 yrs</td>
<td>IM†</td>
</tr>
<tr>
<td></td>
<td>Fluvirin®</td>
<td>Novartis Vaccines</td>
<td>0.5 mL single-dose prefilled syringe</td>
<td>≤1</td>
<td>≥4 yrs.</td>
<td>IM†</td>
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<td></td>
<td></td>
<td></td>
<td>5.0 mL multidose vial</td>
<td>25.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fluzone®</td>
<td>Sanofi Pasteur</td>
<td>0.25 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>6 through 35 mo.</td>
<td>IM†</td>
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<tr>
<td></td>
<td></td>
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<td>0.5 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>≥36 mo.</td>
<td>IM†</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 mL single-dose vial</td>
<td>0.0</td>
<td>≥36 mo.</td>
<td>IM†</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5.0 mL multidose vial</td>
<td>25.0</td>
<td>≥6 mo.</td>
<td>IM†</td>
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<tr>
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<td>Fluzone® Intradermal§</td>
<td>Sanofi Pasteur</td>
<td>0.1 mL prefilled microinjection system</td>
<td>0.0</td>
<td>18 through 64 yrs.</td>
<td>ID</td>
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<tr>
<td>Inactivated Influenza Vaccine, Trivalent††† (IIV3), High Dose</td>
<td>Fluzone® High-Dose**</td>
<td>Sanofi Pasteur</td>
<td>0.5 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>≥65 yrs.</td>
<td>IM†</td>
</tr>
<tr>
<td>Inactivated Influenza Vaccine, Quadrivalent††† (IIV4), Standard Dose</td>
<td>Fluarix® Quadrivalent</td>
<td>GlaxoSmithKline</td>
<td>0.5 mL single-dose prefilled syringe</td>
<td>0.0</td>
<td>≥3 yrs.</td>
<td>IM†</td>
</tr>
<tr>
<td>Recombinant Influenza Vaccine, Trivalent††† (RIV3)</td>
<td>FluBlok®</td>
<td>Protein Sciences</td>
<td>0.5 mL single-dose vial</td>
<td>0.0</td>
<td>18 through 49 yrs.</td>
<td>IM†</td>
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<td>Live-attenuated Influenza Vaccine, Quadrivalent††† (LAIV4)</td>
<td>FluMist® Quadrivalent††</td>
<td>MedImmune</td>
<td>0.2 mL prefilled intranasal sprayer</td>
<td>0.0 (per 0.2 mL)</td>
<td>2 through 49 yrs.§§</td>
<td>IN</td>
</tr>
</tbody>
</table>

Abbreviations: IIV=Inactivated Influenza Vaccine; IIV3=Inactivated Influenza Vaccine, Trivalent; cclIIV3=Cell Culture-based Inactivated Influenza Vaccine, Trivalent; IIV4=Inactivated Influenza Vaccine, Quadrivalent; RIV3=Recombinant Influenza Vaccine, Trivalent; LAIV4=Live, Attenuated Influenza Vaccine, Quadrivalent; IM=intramuscular; ID=intradermal; IN=intranasal.
Influenza Vaccine Availability

- Nationally, 135 million doses of vaccine were distributed last season. 135-139 million doses are projected to be distributed by the end of the 2013-14 season.

- DPH distributed more than 792,000 doses of pediatric and adult vaccine to clinical providers and public sites last season and anticipates distributing 835,000 doses this season.

- To date, DPH has distributed 93% of these doses

- Currently, there are no major supply or availability issues either nationally or in Massachusetts. Commercial vaccinators have ample vaccine supply and health departments and private providers have received the majority of their doses
DPH Flu Website

www.mass.gov/flu

Influenza

Protecting, Preparing, and Caring - for Yourself and Others
Basic flu educational materials free for download and ordering, as well as tips on how to protect yourself and loved ones from catching the flu virus and information on how to care for people who are sick with flu.

Information for Specific Groups
Healthcare and Public Health Professionals, School and Childcare Professionals, Pregnant Women, Parents, and Employers will find more detailed information and guidance about flu here.

Surveillance Data on Flu

School-Based Flu Vaccination Clinics

New – 1-stop shopping for flu clinic resources

Audio and Video Resources
Listen to our podcasts on a variety of flu topics and read our blog for up to date flu information.

Related Links
Handwashing Resources
CDC Flu
Get my flu shot

Publications
Flu Vaccine for Everyone 3MB
Flu Clinic Website
Rate of Hospitalization with Pandemic H1N1 Influenza
by Race/Ethnicity, per 100,000 Population
Massachusetts, April 1, 2009 to January 5, 2010

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Rate per 100,000 Population</th>
</tr>
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<tbody>
<tr>
<td>Asian</td>
<td>4</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>14</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>2</td>
</tr>
<tr>
<td>Overall</td>
<td>6</td>
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</table>
Flu Vaccine for Everyone!
A Guide to Reaching and Engaging Diverse Communities

- Addresses common beliefs and experiences regarding flu vaccine among various communities
- Provides resources and guidance on engaging a range of cultural and linguistic groups via:
  - Community-based organizations and ethnic groups
  - Faith-based organizations
  - Schools
  - Workplaces
  - Homelessness programs
  - Local media
FLU EDUCATIONAL RESOURCES FOR GENERAL PUBLIC AUDIENCES

Massachusetts Department of Public Health

Go to the Massachusetts Health Promotion Clearinghouse at: www.massclearinghouse.com

Click on ‘Influenza’ for the following free items:

- Flu Care at Home Booklet
  - Comprehensive Version
  - Low Literacy Version
- Flu Facts Poster
- Flu Facts Brochure

Available in multiple languages. You can download or place an order via phone, fax or online for copies.

Centers for Disease Control and Prevention (CDC)

Go to http://cdc.gov/flu/freeresources/

CDC has a variety of free resources that are available as print materials, video/audio tools and web tools such as electronic greeting cards.

You can download print materials; select items can be ordered via online for copies. Print materials also available in Spanish.
Monitoring seasonal and emerging diseases: Influenza surveillance at the Hinton State Laboratory Institute

The Bureau of Laboratory Sciences tests for influenza A & B and subtypes the strains in the community
The Hinton State Laboratory contributed to the 2013-2014 Vaccine

- Influenza virus is a very complex virus that readily changes its genetic makeup
- Small changes are known as “antigenic drifts” and large changes are known as “antigenic shifts.” The changes result in new strains appearing
- In order to have an effective vaccine, the World Health Organization (WHO) holds a meeting of expert scientists who determine what strains of virus are circulating throughout the world and should be included in the vaccine
- The State Lab identified a new strain of influenza virus circulating in the community. As the State Lab was the first to successfully identify this new strain to CDC, it was named “influenza B/Massachusetts/2/2012-like virus.”
The Hinton State Laboratory contributed to the 2013-2014 vaccine.
NDC 66521-116-10
5 mL vial RX Only
For four years of age and older.

Influenza Virus Vaccine
Fluvirin®
2013-2014 formula

NDC 66521-116-10
This vaccine has been standardized according to the US Public Health Service Requirements for the 2013-2014 season.
Each 0.5 mL dose contains the recommended ratio of 15 mcg of hemagglutinin of each strain: A/Christchurch/16/2010, NIB-74 (H1N1) (an A/California/7/2009-like virus); A/Texas/50/2012, NYMC X-223 (H3N2) (an A/Victoria/361/2011-like virus); B/Massachusetts/2/2012.
Massachusetts Acute Care Hospital
Healthcare Personnel Influenza Vaccination

2012-2013 Influenza Season
In 2008, an amendment to Massachusetts regulations required acute care hospitals (ACHs) to report influenza vaccination rates of their healthcare personnel (HCP)

The Centers for Medicare and Medicaid Services (CMS) mandated that ACHs nationwide collect and report detailed information regarding the vaccination of their employees against influenza beginning with the 2012-2013 season

Facilities were required to submit data via the National Healthcare Safety Network (NHSN) by May 15, 2013

MDPH adopted the CMS reporting definitions and requirements, but with a submission deadline of April 15, 2013
Statewide, for the 2012-2013 influenza season, the MDPH expected that a 90% influenza vaccination rate would be reached for ACH employees.

The goal of this policy is to advance patient safety by ensuring optimal HCP influenza vaccination coverage.

Per CMS, for each category of HCP, facilities must collect the number of:

- HCP vaccinated at the facility
- HCP vaccinated elsewhere (PCP office, pharmacy, etc.)
- HCP that declined vaccine
- HCP with a medical contraindication to the vaccine
- HCP with unknown vaccine status
Results

All qualifying acute care hospitals (n=76) submitted HCP vaccination data.

Thirty-six facilities (47%) met a benchmark of vaccinating 86% or more of their healthcare personnel.

Twenty-three facilities (30%) vaccinated 90% or more of their healthcare personnel.

Twenty-three facilities (30%) had a vaccine declination rate of 14% or greater.

Nine facilities (12%) classified 14% or more of their employee vaccination status as unknown.
Key Findings

While overall vaccine coverage of HCP did not reach the 90% benchmark overall, most facilities had low declination, medical exemption, and unknown status rates.

*Median and range are measures of HCP vaccine coverage by reporting MA acute care hospitals, not state average for HCP.
Results

Percent of HCP Vaccine Coverage, Declination, and Unknown Status at Acute Care Hospitals

Key Findings
The vaccine coverage and declination rate in 2012-2013 is consistent with the 2011-2012 influenza season despite a change in denominator definition.
Thank you!