Health Care Personnel Vaccination in the Long-Term Care Setting

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Objectives

• Interpret current influenza recommendations as they pertain to health care personnel (HCP) in the long-term care setting
• Identify changes to policy and procedures to better support HCP vaccination
• Counsel HCP on other vaccinations using the National Vaccine Advisory Committee’s (NVAC) Adult Immunization Standards
2014-15 Flu Season Re-cap

- It was a very tough year
  - 4,202 persons were hospitalized with laboratory-confirmed influenza
  - 706 outbreaks of influenza-like illness (ILI) were reported in schools
  - 192 confirmed influenza outbreaks reported in long-term care facilities
  - 10 influenza-related pediatric deaths reported

Data from current and previous influenza seasons are available on the MDH website:
http://www.health.state.mn.us/divs/idepc/diseases/flu/stats/index.html

Flu Seasons Compared

<table>
<thead>
<tr>
<th>Season</th>
<th>Hospitalizations</th>
<th>School Outbreaks</th>
<th>Nursing Home Outbreaks</th>
<th>Pediatric Influenza Deaths</th>
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<tbody>
<tr>
<td>2014-15</td>
<td>4,202</td>
<td>706</td>
<td>192</td>
<td>10</td>
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<tr>
<td>2013-14</td>
<td>1,539</td>
<td>93</td>
<td>27</td>
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<td>2012-13</td>
<td>3,067</td>
<td>463</td>
<td>209</td>
<td>4</td>
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<td>2011-12</td>
<td>552</td>
<td>91</td>
<td>41</td>
<td>1</td>
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<tr>
<td>2010-11</td>
<td>972</td>
<td>215</td>
<td>54</td>
<td>3</td>
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<tr>
<td>2009-10</td>
<td>1,824</td>
<td>1302</td>
<td>4</td>
<td>9</td>
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</tbody>
</table>
Cost of Influenza

- Direct medical costs in U.S.: ~$10.4 billion
- Add in loss of work and life: ~$87 billion
- Vaccination (41% in 2013-14) prevented:
  - 7+ million illnesses
  - 3+ million medically-attended illnesses


Universal Recommendation

• Everyone 6 months and older should receive an influenza vaccine
  • Within FDA licensed age group and indications

• Why target HCP?
  • Exposure to high-risk adults
    • Influenza is a serious threat, ~90% of all influenza deaths occur in those 65 and older
  • Protection of a critical workforce
  • Pandemic Preparedness
  • The available literature uses proxies for influenza to show benefit of HCP vaccination
    • PCR confirmation is the gold-standard endpoint

Influenza Vaccine for 2015-16

• Several options, 16 if you include all presentations

• Age indications and recommended use differ for many presentations
  • LAIV for 2-49 years
  • IIV High-dose for 65 and older

• No preference when a patient is eligible for more than one product

• Vaccine is much more accessible, but confusion abounds!
<table>
<thead>
<tr>
<th>Vaccine Category</th>
<th>Trade Name</th>
<th>Manufacturer</th>
<th>Age</th>
<th>Dose-Presentation</th>
<th>Route-Site</th>
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</thead>
<tbody>
<tr>
<td>Inactivated Influenza Vaccine, Trivalent (IIV3)</td>
<td>Fluzone</td>
<td>Sanofi Pasteur</td>
<td>6 months and older</td>
<td>Dose per age – multidose vial</td>
<td>IM</td>
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<tr>
<td></td>
<td>Fluvin</td>
<td>Novartis Vaccine</td>
<td>4 years and older</td>
<td>0.5 mL – prefilled syringe</td>
<td>IM</td>
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<td>Alfuria2</td>
<td>CSL Limited</td>
<td>9 years and older</td>
<td>0.5 mL – prefilled syringe</td>
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<tr>
<td></td>
<td>Fluancel</td>
<td>Novartis Vaccine</td>
<td>18 years and older</td>
<td>0.5 mL – prefilled syringe</td>
<td>IM</td>
</tr>
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<td>Fluzone High Dose4</td>
<td>Sanofi Pasteur</td>
<td>65 years and older</td>
<td>0.5 mL – prefilled syringe</td>
<td>IM</td>
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<tr>
<td>Inactivated Influenza Vaccine, Quadrivalent (IIV4)</td>
<td>Fluzone Intradermal3</td>
<td>Sanofi Pasteur</td>
<td>18 through 64 years</td>
<td>0.1 mL – prefilled microinjection system ID4</td>
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<td>FluAfix Quadrivalent</td>
<td>GlaxoSmithKline</td>
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<td>IM</td>
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<td>FluAvec Quadrivalent</td>
<td>Biomedical Corp. of Quebec (distributed by GlaxoSmithKline)</td>
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<td>0.5 mL – multidose vial</td>
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<tr>
<td></td>
<td>Fluzone Quadrivalent</td>
<td>Sanofi Pasteur</td>
<td>6 months and older</td>
<td>Dose per age – multidose vial</td>
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<td></td>
<td></td>
<td>6 through 35 months</td>
<td>0.25 mL – prefilled syringe</td>
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<td></td>
<td>36 months and older</td>
<td>0.5 mL – single-dose vial</td>
<td>IM</td>
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<tr>
<td>Live-attenuated Influenza Vaccine, Quadrivalent (LAIV4)</td>
<td>FluMist6</td>
<td>MedImmune</td>
<td>2 – 49 years2</td>
<td>0.2 mL – prefilled intranasal spray</td>
<td>IN</td>
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<tr>
<td>Recombinant Influenza Vaccine, Trivalent (RIV3)</td>
<td>Flublok</td>
<td>Protein Sciences</td>
<td>18 and older</td>
<td>0.5 mL single-dose vial</td>
<td>IM</td>
</tr>
</tbody>
</table>

Flu Vaccine for 2015-16

- This year’s flu vaccine contains:
  - A/California/7/2009 (H1N1)pdm09-like virus
  - A/Switzerland/9715293/2013 (H3N2)-like virus
  - B/Phuket/3073/2013-like virus (Yamagata lineage)

- Quadrivalent vaccines additionally contain:
  - B/Brisbane/60/2008-like virus (Victoria lineage)

- New H3N2 and B strains
When to Administer Flu Vaccine

- In general, health care providers should start offering vaccination as soon as it is available and continue until the vaccine expires.

- Considerations:
  - Flu disease is unpredictable
  - Two weeks to build immune response
  - Entire population to vaccinate in short period of time
  - Delaying vaccination may lead to missed opportunities and non-vaccination

Safety of Influenza Vaccine

- Several systems to monitor
  - Vaccine Safety Datalink, Vaccine Adverse Event Reporting System
  - Discussed later in presentation
  - Very safe vaccine overall

- Each vaccine formulation is evaluated
  - No concerns with 2014-2015 formulation

- Enhanced monitoring:
  - Never formulations
  - Pregnancy
  - Anaphylaxis associated with egg allergy
Effectiveness of Influenza Vaccine

• Flu vaccine effectiveness is still poorly understood and varies based on several factors.
  • Age, immune system of person receiving vaccine
  • Timing and strain match
• Still the best protection against a common and sometimes deadly illness
  • WHO estimates that 5-10% of adults and 20-30% of kids get flu annually
• However, we could be maximizing the use of flu vaccine if more people were vaccinated!

HCP Vaccination Coverage

• 75.2% overall in 13-14, according to CDC survey
  • Only 63% in long-term care settings
  • Higher coverage when the HCP worked in a facility that:
    • Required vaccine
    • Offered multiple days
  • HCP in the long-term care setting were more likely to report that their facility did not offer or promote influenza vaccine

Why do HCP get vaccinated?

1) To protect themselves (43.5%)
2) Because they are required (25.5%)
3) To protect their patients (8.5%)

Improving HCP Vaccination

• Will take work
• Several Steps:
  • Accurate assessment of current rates
  • Review current policies
  • Seek out resources and education that resonate with staff
    • Meet them where they are at
    • Ask for feedback

Mandates?

• To implement effectively, a strong policy must in place and staff time should be dedicated to support the implementation of the policy.
• The less-than-ideal efficacy poses challenges
  • Evidence that vaccinating HCP it prevents nosocomial influenza...still waiting
• Influenza is present in the community, focusing your entire energy into ensuring that HCP are vaccinated may leave some gaps
  • Perhaps time and resources could also go to vaccinating visitors, volunteers, or family that can also bring influenza into the facility
Barriers to Vaccination: Access

- 80.4% vaccinated in facilities that offered vaccine for more than 1 day
- 49.3% vaccinated in facilities that did not offer vaccine at no cost
- Can you provide better access to vaccine?
  - Partnerships
    - Pharmacists
    - Vouchers for the drugstore or clinic
    - Community vaccinators
  - Convenience
    - Staff meetings or payday
    - Mobile cart
    - Peer vaccination

Barriers to Vaccination: Beliefs

- Beliefs about vaccination or influenza can be very impactful

  Misperceptions:
  1) “I might get sick from the vaccine.” (20.1%)
  2) “I don’t need it.” (16.0%)
  3) “I don’t think that flu vaccines work.” (16.3%)

  Health Literacy
  1) What is the flu and how does it differ from a cold?
  2) Translated and culturally competent materials
Helpful Resources: Flu Basics

http://www.health.state.mn.us/divs/idepc/diseases/flu/basics/flufacts.pdf

Diversity in the Workplace

- LTC workforce is more diverse than the hospital workforce
  - 21% of HCP in the long-term care setting are born outside of the US

- Important to consider:
  - English proficiency
    - Vocabulary used in many educational materials is too complex
  - Additional challenges
    - Mistrust
    - Health disparities
Vaccine Information Statements (VIS)

- Must be presented to all patients
  - Paper or laminated copy
  - Electronic

http://www.health.state.mn.us/divs/depc/diseases/flu/basics/figh/flu/index.html#poster
Barrier: High Staff Turnover

- Don’t stop vaccinating in October, or November, or December

- Consider flu vaccination a year-round issue
  - Vaccine expires in June
  - Common to see circulation into May

- Have a written policy to show new hires

- The Minnesota Immunization Information Connection (MIIC) can be a useful tool for vaccination history
Opportunity: Create Enthusiasm

- Build a culture of prevention
- Participate in FluSafe
  - Public recognition for facilities reaching 70%, 80% and 90% coverage
- Incentives and accountability
  - Small incentives
  - Post rates by unit
- Vaccinate leadership in front of staff
  - Not just administration, but also influential staff members (e.g. charge nurses)

Tools and Strategies

- FluSafe
  - Uses MIIC for consistent tracking across facilities
  - Can be used as a tool to get numbers for reporting
- Toolkits
- CDC’s Toolkit for Long-Term Care Employers
- General Flu Information
  - Flu Guide
  - Weekly statistics
  - Sign up for both at www.mdhflu.com
In addition to influenza...

- HCP are recommended to receive several vaccines based on occupational risk
  - Measles, Mumps, Rubella
    - All HCP who lack presumptive immunity (vaccination, disease, birth before 1957)
    - 2 doses, SC, at least 28 days apart
  - Varicella
    - If no evidence of immunity (documentation of 2 doses, lab immunity, or hx from a health care provider)
    - 2 doses, SC, 4-8 weeks apart
    - Live vaccine
  - Hep B
    - 3 doses for all HCP who have contact with blood or body fluids
  - Tdap
    - 1 dose as soon as feasible, if Tdap not already recieved
    - Either product may be used in ages 65 and older (this is off-label for Adacel)
    - Td for routine booster every 10 years

Consider these as well...

- Pneumococcal (PPSV and PCV)
  - Adults at risk 19-64 (off-label)
  - Adults over 65
- Zoster
  - For adults 60 and older
- Hepatitis A
  - For adults at risk
- Human Papilloma Virus (HPV)
  - Catch-up to age 26

Lack of awareness is a key reason that adults are unvaccinated...

NVAC’s Adult Immunization Standards

- Stresses that all providers, including those that 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 healthcare 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
Implementing the Standards

- Calls to action for healthcare 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 received by patients, including entering immunizations into immunization registries.

Assess

- Screening form
- Immunization Action Coalition ([www.immunize.org](http://www.immunize.org))
- Vaccine History
MIIC for Assessment

Strong and Clear Recommendation

- Health care providers say they recommend vaccines, but patients do not seem to hear it...

Don’t leave your recommendation open to interpretation:

- “I would like to give your pertussis shot today.”
- “Get your zoster vaccine the next time you are at the pharmacy.”
Vaccinate or Refer

• Provide immunization whenever possible
  • Make sure you have the proper legal authority to vaccinate (i.e. prescription or signed protocol)
  • See MDH’s resources for vaccine management, storage and handling and administration
• If you cannot, refer
  • Community partners (e.g. local clinic or pharmacy)
  • Health map vaccine finder
    www.vaccine.healthmap.org

Document

• In medical record
• In MIIC
  • Can use FluSafe spreadsheet for this (check online or call for correct CPT codes)
  • Automatic data exchange if you have an HER
  • Enter one-by-one if needed (do this for small numbers only)

• Use MIIC for resident’s vaccines too!
Thank You!

- Flu Questions:
  - health.flu@state.mn.us or
  - jennifer.heath@state.mn.us

- FluSafe Questions
  - health.flusafe@state.mn.us

- Adult Immunization Questions
  - jennifer.heath@state.mn.us or
  - anna.fedorowicz@state.mn.us