Annual Vaccine Update

Carolyn Cook, MSN, RN
Kate Cranfield, MN, RN
Denise Stinson, MN, RN

Tacoma-Pierce County Health Department
Communicable Disease Control
Aug. 15, 2019
Agenda

• Introductions and housekeeping
• 2018-2019 flu season review
• 2019-2020 flu vaccine
• VFC & ACIP updates
• New school and childcare MMR exemption law
• Vaccine-preventable disease updates
• Questions
Influenza

Kate Cranfield, MN, RN
Slides courtesy of Matthew Rollosson, MPH&TM, RN
Aug. 15, 2019
Basics

• Viral infection of the cells that line the respiratory tract.
  – Systemic symptoms due to cytokines released by infected cells and lymphocytes.

• Common Symptoms:
  – Fever.
  – Chills, body aches, headache.
  – Dry cough, runny nose, sore throat.

• Not to be confused with “stomach flu.”
  – Gastroenteritis.

Treanor, 2015
Basics

• Sudden onset.
• Fever usually lasts about 3 days.
• 1-2 day incubation.
• Contagious period:
  – Just before onset of symptoms.
  – Virus usually not detected after 5 days.
• Transmitted by respiratory droplets.

Treanor, 2015
United States Statistics

• Attack ratio (unvaccinated).
  • Adults ~10%.
  • Children 20-30%.

• Average duration.
  • 3-4 days in bed.
  • 5-6 days restricted activity.
  • 3 days school/work lost.

• Economic burden.
  • $87.1 billion per year.
    ▪ Lost earnings $16.3 billion.

Risk Factors

• Increased risk of complications and death from influenza:
  – Age.
    ▪ Young children and older adults.
  – Chronic heart disease.
  – Chronic lung disease.
  – Diabetes.
  – Immune compromise.
  – Obesity.
  – Pregnancy/postpartum.
Complications

• Primary viral pneumonia.
  – Usually occurs in young adults, pregnant people and people with heart disease.
  – Rapid progression.
  – High mortality.
  – Pandemic influenza, uncommon in seasonal influenza.

• Secondary bacterial pneumonia.
  – Adults older than 65 years and people with lung disease.
  – Period of improvement after acute phase of influenza, then worsening.
Pierce County Influenza Tests, Clinical Laboratories, 2018-2019
HHS Region 10 Influenza Tests and Pierce County Influenza Hospitalizations, 2018-2019
Pierce County Influenza Hospitalizations, By Season

![Graph showing influenza hospitalizations by season from 2013-14 to 2018-19]
Pierce County Hospitalization Risk Factors

- 83% of Pierce County residents hospitalized with influenza have at least 1 premorbid condition that increases the risk of influenza complications.

- Most frequently identified risk factors:
  - Diabetes.
  - Chronic lung disease.
    - Chronic obstructive pulmonary disease (COPD).
  - Chronic heart disease.
    - Congestive heart failure (CHF).

- 48% have 2 or more risk factors.
Pierce County Hospitalization Risk Factors

• Obesity.
  – Median body mass index (BMI): 29 kg/m$^2$.
    ▪ Overweight $\geq$ 25 kg/m$^2$.
  – 46% of hospitalized patients are obese.
    ▪ BMI $\geq$ 30 kg/m$^2$.
  – Of those 35% are morbidly obese.
    ▪ BMI $\geq$ 40 kg/m$^2$. 
Pierce County Hospitalization Risk Factors

- Smoking.
  - During the 2016-2017 and 2017-2018 influenza seasons the mean age smokers hospitalized with influenza was significantly lower than the mean ages of former smokers and adults who never smoked.
  - The age difference between former smokers and adults who never smoked was not significant.

<table>
<thead>
<tr>
<th>2017-2018</th>
<th>Median</th>
<th>Mean</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>57</td>
<td>55.4</td>
<td></td>
</tr>
<tr>
<td>Former Smokers</td>
<td>71</td>
<td>69.5</td>
<td>&gt; 0.000001</td>
</tr>
<tr>
<td>Never Smoked</td>
<td>73</td>
<td>67.8</td>
<td>&gt; 0.000001</td>
</tr>
</tbody>
</table>
2019-2020 Flu Vaccine

Kate Cranfield, MN, RN
Aug. 15, 2019
Which strains will it protect against?

• Trivalent vaccines:
  – A/Brisbane/02/2018 (H1N1)pdm09-like virus (updated).
  – A/Kansas/14/2017 (H3N2)-like virus (updated).
  – B/Colorado/06/2017-like (Victoria lineage) virus.

• Quadrivalent vaccines:
  – Plus B/Phuket/3073/2013-like (Yamagata lineage) virus.

Why were certain strains updated?

• H1N1 and H3N2 were updated.
  – Better match for circulating viruses.

• H3N2.
  – Increasing challenge for vaccine strain selection due to frequent changes to the virus.
  – A distinct strain started increasing in the United States and other countries.
  – Delayed strain selection from February to March to allow more time for monitoring.

Flu Vaccines Supplied by the Vaccines for Children Program

Carolyn Cook, MSN, RN
Aug. 15, 2019
# 2019 – 2020 State Supplied Childhood Flu Vaccines At-A-Glance

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Fluzone Quad, PF</th>
<th>Fluzone® Quad, PF</th>
<th>FluLaval Quad, PF</th>
<th>FluMist Quad, PF</th>
<th>Flucelvax Quad, PF</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Name</strong></td>
<td>Fluzone® 0.5mL single dose (ages 6 months +) '19-20</td>
<td>Fluzone® 5.0mL MDV (ages 3-18 years) '19-20</td>
<td>FluLaval® 0.5mL single dose (6 months +) '19-20</td>
<td>FluMist® single dose (ages 2-18 years) '19-20</td>
<td>Flucelvax® 0.5mL single dose (ages 4-18 years) '19-20</td>
</tr>
<tr>
<td><strong>Vaccine Name</strong></td>
<td>Influenza, injectable, quadrivalent, preservative free</td>
<td>influenza, injectable, quadrivalent</td>
<td>influenza, injectable, quadrivalent</td>
<td>influenza, live, intranasal, quadrivalent</td>
<td>Influenza, injectable, MDCK, preservative free, quadrivalent</td>
</tr>
<tr>
<td><strong>Formulation</strong></td>
<td>0.5mL single dose, pre-filled syringe, preservative free</td>
<td>5mL multi-dose vial, contains preservative</td>
<td>0.5mL single dose, pre-filled syringe, preservative free</td>
<td>0.2ml single dose sprayer, preservative free</td>
<td>0.5mL single dose, pre-filled syringe, preservative free</td>
</tr>
<tr>
<td><strong>Manufacturer</strong></td>
<td>Sanofi</td>
<td>Sanofi</td>
<td>GlaxoSmithKline</td>
<td>MedImmune</td>
<td>Seqirus</td>
</tr>
<tr>
<td><strong>CPT/CVX Codes</strong></td>
<td>90686/150</td>
<td>90688/158</td>
<td>90686/150</td>
<td>90672/149</td>
<td>90674/171</td>
</tr>
<tr>
<td><strong>NDC Number (Box)</strong></td>
<td>49281-0419-50</td>
<td>49281-0631-15</td>
<td>19515-0906-52</td>
<td>66019-0306-10</td>
<td>70461-0319-03</td>
</tr>
<tr>
<td><strong>Age – Licensure</strong></td>
<td>6+ mos</td>
<td>6+ mos</td>
<td>6+ mos</td>
<td>2-49 years</td>
<td>4+ years</td>
</tr>
<tr>
<td><strong>State Eligibility</strong></td>
<td>6 mos-18 years</td>
<td>3-18 years</td>
<td>6 mos-18 years</td>
<td>2-18 years</td>
<td>4-18 years</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Store refrigerated, 36°F - 46°F (2°C - 8°C)</td>
<td>Store refrigerated, 36°F - 46°F (2°C - 8°C)</td>
<td>Store refrigerated, 36°F - 46°F (2°C - 8°C)</td>
<td>Store refrigerated, 36°F - 46°F (2°C - 8°C)</td>
<td>Store refrigerated, 36°F - 46°F (2°C - 8°C)</td>
</tr>
</tbody>
</table>

For people with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TDD/TTY call 711). DOH 348-700 August 2019
Important to know

• Correct age range.
• Whether it contains preservatives.
• Instructions from DOH.
• Dosage.
• Route.
Washington eligibility for flu vaccines

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>Pregnant?</th>
<th>Acceptable Flu Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-35 Months</td>
<td>N/A</td>
<td>Fluzone 0.5mL Preservative-Free&lt;br&gt;FluLaval 0.5mL Preservative-Free</td>
</tr>
<tr>
<td>2-18 Years</td>
<td>No</td>
<td>FluMist 0.2mL sprayer</td>
</tr>
<tr>
<td>3-18 Years</td>
<td>No</td>
<td>Fluzone MDV&lt;br&gt;Fluzone 0.5mL Preservative-Free&lt;br&gt;FluLaval 0.5mL Preservative-Free</td>
</tr>
<tr>
<td>3-18 Years</td>
<td>Yes</td>
<td>Fluzone 0.5mL Preservative-Free&lt;br&gt;FluLaval 0.5mL Preservative-Free</td>
</tr>
<tr>
<td>4-18 Years</td>
<td>Either</td>
<td>Flucelvax 0.5mL Preservative Free*</td>
</tr>
</tbody>
</table>

*Only Available to facilities participating in the Flucelvax pilot*
When ordering flu vaccines

- From the Immunization Information System drop-down menu, select the flu order set.
- Order only a 1-month supply at a time.
- Flu vaccines can be ordered any time during the season.
- All flu orders are shipped priority.
  - Do not mark “urgent.”
Flu training webinar coming soon!

- Sept. 24, 2019, 12-1 p.m.
- Join Department of Health staff to learn how to prepare for the 2019-2020 flu season.
- Topics:
  - 2019-2020 flu vaccine products available through the Childhood Vaccine Program.
  - Flu vaccine recommendations.
  - Using Immunization Information System to order, receive and document flu vaccines.
- Also, don’t forget to read Vaccine Blurb emails from the Department of Health!
Updates from the Advisory Committee on Immunization Practices

Carolyn Cook, MSN, RN
Aug. 15, 2019
How vaccine recommendations evolve

• New information.
  – Reports to Vaccine Adverse Event Reporting System (VAERS).
  – Outbreaks.
  – New research.

• New vaccine approved by the Food and Drug Administration (FDA).
What ACIP decides

• Who gets the vaccine.
• When it should be given.
• Timing of doses.
• Universal or conditional recommendation.
• Preferential recommendation.
Changes this year

- PCV$_{13}$ universally recommended for adults over age 65.
- Meningitis vaccine recommended in outbreak and high-risk situations.
- DTaP, IPV, HIB, HBV combo vaccine.
Updated pneumococcal vaccine recommendations

- **2000**: PCV$_7$ for children
- **2010**: PCV$_{13}$ for children
- **2012-2013**: PCV$_{13}$ for individuals with immunocompromising conditions
- **2014**: PCV$_{13}$ in series with PPSV$_{23}$ for adults > 65 years old
- **Now**: Evaluation of PCV$_{13}$ in adults > 65 years old
ACIP age-based recommendations

- In 2014, ACIP recommended PCV$_{13}$ in series with PPSV$_{23}$ for adults > 65 years old. Their rationale:
  - Short term:
    - Still a significant burden of disease among older adults, particularly due to pneumococcal pneumonia.
  - Long term:
    - Limited public health benefits expected due to increased indirect effects from pediatric PCV13.
- Recommendation was made with a commitment to re-evaluate in 4 years and revise as needed.
Population-level impact on IPD

IPD incidence among adults >65 years old, 2013-2017¹

- No changes in invasive pneumococcal disease (IPD) incidence since 2014.
- Non-PCV₁₃ serotypes now make up the majority of disease burden.

¹Active bacterial core surveillance, unpublished data.
Meningitis B booster vote #1

- **Groups:**
  - People with complement deficiency.
  - Complement inhibitor use.
  - Asplenia.
  - Microbiologists.

- **Recommendation:**
  - MenB booster dose 1 year after completing MenB primary series.
  - Followed by MenB booster doses every 2-3 years thereafter.
  - For as long as increased risk remains.
Meningitis B booster vote #2

• **Group:**
  - People determined by public health officials to be at increased risk during an outbreak.

• **Recommendation:**
  - One-time MenB booster dose if it has been over 1 year since completion of a MenB primary series.
  - A booster dose interval of over 6 months may be considered by public health officials depending on the specific outbreak, vaccination strategy and projected duration of elevated risk.
Harmonization of catch-up vaccination through 26 years of age

- ACIP recommends routine HPV vaccination at 11 or 12 years of age. Vaccination can be given starting at 9 years of age.

- **New**—ACIP also recommends catch-up vaccination for all inadequately vaccinated people through 26 years of age.

- The vote to make it the same for males and females passed unanimously.
HPV vaccination of people 27-45 years old

• Considerations:
  – Potential diversion from adolescent HPV immunization.
  – Possible exacerbation of an international vaccine shortage.
  – Concerns over shared clinical decision-making.
  – Provision of vaccine for those with need.

• Vote was in favor of shared clinical decision-making.
Combo vaccine

- Newly-licensed pediatric hexavalent vaccine (Dtap-IPV-Hib-HepB) was approved for inclusion in the Vaccines For Children (VFC) Program for the infant series starting at 2, 4 and 6 months of age.
MMR Vaccine Exemption Changes for Schools and Childcare Centers

Kate Cranfield, MN, RN
Aug. 15, 2019
MMR Vaccine Exemption Law Change

• Took effect July 28, 2019.
  – Applies to upcoming 2019-2020 school year.
• Eliminated personal and philosophical exemptions for MMR vaccine for schools and childcare centers.
• Requires childcare employees and volunteers to provide proof of immunity.
• Certificate of Exemption updated.
Common Questions

- Personal and philosophical exemptions eliminated **only** for MMR vaccine.
- Medical and religious exemptions unchanged.
- Previous personal and philosophical exemptions **not** grandfathered in.
- For religious exemptions, provider:
  - Not required to check religious documentation.
  - Signature attests vaccine education given.
- Complete list of FAQs at [https://doh.wa.gov/mmrexemption](https://doh.wa.gov/mmrexemption).
School and Childcare Vaccine Resources

• Health Department’s school and childcare immunization page.
• Washington State Department of Health’s school and childcare immunization page.
  – Includes updated vaccine requirements in multiple languages.
• 2019-2020 Individual Vaccine Requirements Summary.
  – Detailed information about each required vaccine.
Where can children get vaccinated?

- Their healthcare provider’s office.
- Pharmacy.
- Free children’s immunization clinic:
  - South Hill Mall.
  - Mary Bridge WIC office.
  - Check [calendar](#) for addresses and hours.
Proof of immunity for adults

• Look for immunization record.
  – Check myIR.

• If no written documentation:
  – Get a dose of MMR.
  – Could have a titer drawn (not CDC-recommended).

• Low-risk adults need 1 dose of MMR.
  – If born before 1957, considered immune—but not valid proof of immunity for childcare workers.

• High-risk adults need 2 doses of MMR:
  – Students at post-high school education institutions.
  – Healthcare workers.
  – International travelers.
  – People determined by public health to be at increased risk during a measles outbreak.
Where can adults get vaccinated?

- Insured adults:
  - Local pharmacy.
  - Most insurance covers recommended immunizations.

- Uninsured adults who work or volunteer at childcare centers:
  - Certain Safeway stores offer free MMR vaccine.

- Uninsured or underinsured adults.
  - List of offices and pharmacies on Health Department website.
  - MultiCare kiosk at South Hill Mall.
    - Sliding scale fee.
Vaccine-Preventable Disease Update: Measles and Hepatitis A

Denise Stinson, MN, RN
Aug. 15, 2019
Reported cases of measles, 1960-2019

Cases in Washington, Jan. 1-Aug. 13, 2019

Clark County: 71 (last case in March)
King County: 12 (last case in July)
Pierce County: 2 (last case in May)
Snohomish County: 1 (last case in May)

TOTAL: 86 cases
Why are Outbreaks Happening?

• Worldwide outbreak of measles.
  – Severe under-immunization in some countries due to various problems.
    ▪ Conflict, problems with vaccine supply and quality, vaccine hesitancy, etc.

• Increasing pockets of under-immunization in highly immunized countries.
  – People who don’t immunize tend to group with like-minded people ➔ large groups of unimmunized people.

• Travel.
Impacts on clinical facilities

• Highly contagious.
  – Transmission within healthcare facilities is NOT uncommon.

• Contagious before characteristic rash develops.

• Contagious for up to 2 hours after person leaves an enclosed airspace.

• Healthcare facility must assist public health to notify exposed people.

• Exposed healthcare workers without documentation of 2 MMR doses must be furloughed days 5-21.
What do clinics need to know?

• How to prevent measles transmission in their clinic.
  – Increased situational awareness.
  – Patient screening, triage and isolation.
  – Staff immunization.

• How to test for measles.
  – Measles PCR only available through public health lab.

• How to work with public health.
  – Call right away if measles is suspected.
Patient screening

• Screen patients for rash and fever.
• If there is suspicion for measles, bring patient through back door and room immediately.
• Place mask on patient.
• Mask providers and staff who are examining or providing any care.
  – Even if immunized.
• Consider seeing patient in their car.
• Travel screening.
Staff immunization

• Staff working in healthcare should have evidence of immunity **on file** with employer.
  – Documentation of 2 MMR doses.
  – Documentation of serologic immunity (positive measles IgG).

• Staff exposed to confirmed case should have immunizations verified.

• Monitor exposed staff for 21 days post-exposure.

• Furlough through day 21 if not immunized and monitor for illness (public health will do).
Routine child immunization

- Make sure your patients are up-to-date for MMR.
- Talk to vaccine refusing parents about reconsidering MMR due to outbreak.
- Give MMR for infants age 6-12 months for travel outside United States.
- No changes in routine vaccine recommendations for infants.
  - Public health would announce any new outbreak recommendations.
Nationwide Outbreak of Hepatitis A Among People Living Homeless
Hepatitis A Outbreaks, United States, Jan. 1, 2016-Aug. 6, 2019

- 23,978 cases.
- 60% of cases hospitalized.
- 236 deaths.
Requested actions

- Give hepatitis A vaccine to people at increased risk:
  - Living homeless.
  - Using drugs.
  - Men who have sex with men.
  - International travelers.
  - People with chronic liver disease (including hepatitis B and C).

- One dose is 95% protective after 14 days.
- Be alert for jaundice, vomiting and other symptoms of acute hepatitis A.
- Immediately notify public health if you suspect a case.