Adult Immunization: Closing the Gap through Standards of Adult Vaccine Practice

Jonathan L. Temte, MD/PhD

Chair, Wisconsin Council on Immunization Practices
Department of Family Medicine and Community Health
University of Wisconsin School of Medicine and Public Health

Wisconsin State ACP Scientific Meeting
September 9, 2017
Disclosures

• Consulting
  – Genocea Vaccines (new vaccine)
  – GSK Vaccines (new vaccine)
  – Pfizer Vaccines (new vaccines)

• Expert Testimony
  – Merck Vaccines (pending)
Objectives

• Understand current ACIP recommendations for adults
• Appreciate the existing gaps between existing vaccine recommendations and vaccine coverage
• Recognized and implement the Standards for Adult Immunization Practice
A Significantly Changing Population

http://www.pewresearch.org/next-america/#Two-Dramas-in-Slow-Motion
An Aging Population

- 44.7 million Americans are 65 years or older
  - (14.1% of the U.S. population)
- 11,000 seniors become eligible for Medicare daily in the U.S.
- 1.8 million live in this nation's 16,000 nursing homes
  - Additional 900,000 live in assisted living facilities

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2013 Wisconsin Population Estimates</th>
<th>Wisconsin Residents in WIR(^{\dagger}) (% of Census)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults 18+ Years</td>
<td>4,434,937</td>
<td>5,014,668 (113)</td>
</tr>
<tr>
<td>18-49 Years</td>
<td>2,379,514</td>
<td>2,832,440 (119)</td>
</tr>
<tr>
<td>50-64 Years</td>
<td>1,205,456</td>
<td>1,140,793 (95)</td>
</tr>
<tr>
<td>65+ Years</td>
<td>849,967</td>
<td>1,041,435 (135)</td>
</tr>
</tbody>
</table>

\(^{\dagger}\)As of January 1, 2015

Petit AB, Bramer C, Jacobs M et al. Adult Influenza Vaccinations Reported to the Wisconsin Immunization Registry by Retail Pharmacies, 2011-2014. JPSWI 2015
Changing Face of America

Percent of total U.S. population by race and ethnicity, 1960-2060

http://www.pewresearch.org/next-america/#Two-Dramas-in-Slow-Motion
Closing the Gap

What are the gaps?
Where are the gaps?
How do we close the gaps?
# ADULTS

## A Review of Recommended Vaccines

**Figure 1. Recommended immunization schedule for adults aged 19 years or older by age group, United States, 2017**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–59 years</th>
<th>60–64 years</th>
<th>≥ 65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza¹</td>
<td></td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Td/Tdap²</td>
<td></td>
<td></td>
<td>Substitute Tdap for Td once, then Td booster every 10 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMR³</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAR⁴</td>
<td></td>
<td></td>
<td>2 doses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HZV⁵</td>
<td></td>
<td></td>
<td>1 dose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV—Female⁶</td>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV—Male⁸</td>
<td></td>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCV13⁷</td>
<td></td>
<td></td>
<td>1 dose</td>
<td>1 dose</td>
<td></td>
</tr>
<tr>
<td>PPSV23⁷</td>
<td></td>
<td></td>
<td>1 or 2 doses depending on indication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HepA⁸</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HepB⁹</td>
<td></td>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MenACWY or MPSV4¹⁰</td>
<td></td>
<td></td>
<td>1 or more doses depending on indication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MenB¹⁰</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on vaccine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hib¹¹</td>
<td></td>
<td></td>
<td>1 or 3 doses depending on indication</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ACIP Recommended Immunization Schedule is available at
Rates of Hospitalization – 2016/2017

One out of every 344 People aged 65+ years

https://www.cdc.gov/flu/weekly/
High-Dose Trivalent or Standard Dose Quadrivalent?
High Dose Influenza Vaccine

• 4x-increase (60mcg) in the dose of hemagglutinin antigen for each of the three influenza strains
• A postlicensure study of effectiveness compared with standard dose TIV (Fluzone) was begun in 2009 and completed in 2013
• High dose showed ~25% relative risk reduction in influenza cases
  – Absolute RR = ~ 4 cases per 1000
    • Attack rate = 1.43% w/ high dose
    • Attack rate = 1.89% w/ regular dose
Distribution of Influenza Viruses 2015-2016

Data from: http://www.cdc.gov/flu/weekly/

Influenza B Victoria is not in trivalent vaccine
Distribution of Influenza Viruses 2016-2017

- 68.2% A[H3N2]
- 21.2% B-Victoria
- 8.6% B-Yamagata
- 2.0% A[H1N1]

Influenza B Yamagata is not in trivalent vaccine

Data from: http://www.cdc.gov/flu/weekly/
Influenza Vaccine
age 19--64 years

https://www.dhs.wisconsin.gov/immunization/data.htm
Influenza Vaccine
age ≥ 65 years

https://www.dhs.wisconsin.gov/immunization/data.htm
Percentage of Wisconsin residents who received one or more doses of influenza vaccine, by race and ethnicity and region, 2016-2017 influenza season

https://www.dhs.wisconsin.gov/immunization/data.htm
Tdap

• All adults should receive Tdap

• Pregnancy
  – Administer Tdap between 27 and 36 weeks gestation
    • for each pregnancy
  – If not provided during pregnancy,
    • administer Tdap immediately postpartum

• Adults 65 years and older
  – Routinely Recommended
  – Grandparents, child-care providers, and health-care practitioners who have/anticipate close contact with an infant less than 12 months of age and who previously have not received Tdap

• No indication for revaccination outside of pregnancy
2015 59% 2016 62%
Zoster/Varicella
Herpes zoster

- Vaccine licensed for use for age 50+ years
- Single dose of zoster vaccine is recommended for adults aged 60 years and older regardless of whether they report a history of chickenpox or a prior episode of herpes zoster
- Vaccinate persons with chronic medical conditions unless their condition is a contraindication
- Limited by decreasing immunogenicity with age
- Waning immunity over time

Source: CDC/ Judy Schmidt
Declining Vaccine Immunogenicity with Increasing Age

Waning of Immunity of Herpes Zoster Vaccine

PPSV23 Indications

- Age ≥ 65 years
- If < 65 years
  - Chronic lung disease
    - including asthma
  - chronic cardiovascular diseases
  - diabetes mellitus
  - chronic liver diseases
    - cirrhosis
    - chronic alcoholism
  - functional or anatomic asplenia
    - sickle cell disease
    - splenectomy
  - immunocompromising conditions; including
    - chronic renal failure
    - nephrotic syndrome
  - cochlear implants
  - cerebrospinal fluid leaks
  - HIV
  - persons who smoke cigarettes
Revaccination with PPSV23

• One-time revaccination after 5 years
  – for persons aged 19 through 64 years
  – with chronic renal failure or nephrotic syndrome;
  – functional or anatomic asplenia
    • (e.g., sickle cell disease or splenectomy)
  – persons with immunocompromising conditions.

• 65 years plus: one-time revaccination
  • if vaccinated 5 or more years previously and
  • less than 65 years at the time of primary vaccination
ACIP recommends routine use of PCV13 for adults 65 years and older:

- Pneumococcal vaccine naïve elders
  - PCV13, followed by PPSV23, 12 months later
- Prior PPSV23 recipients at age 65+
  - PCV13 at least one year after the most recent PPSV23
- When an additional dose of PPSV23 is indicated
  - additional dose 12 months after PCV13
  - and at least 5 years after most recent dose of PPSV23
PCV13
Immunocompromised Adults

• ACIP recommends routine use PCV13 for adults 19 years and older with:
  – immunocompromising conditions
  – functional or anatomic asplenia
  – cerebrospinal fluid (CSF) leaks
  – cochlear implants

• PCV13 is administered in addition to PPSV23
  – vaccine naïve individuals
    • PCV13 followed by PPSV23 at least 8 weeks later
  – previously been vaccinated with PPSV23
    • PCV13 one or more years after the last PPSV23 dose
https://www.dhs.wisconsin.gov/immunization/data.htm
Diabetes and Hepatitis B

HIV Exposure Feared After Nurse Improperly Uses Diabetic Injection Device At Wisconsin Clinic

By TODD RICHMOND | 08/29/11 06:56 PM ET | AP

As many as 2,345 Dean Clinic patients may have been exposed to the bloodborne illnesses hepatitis B and C and HIV because a diabetes nurse educator reused the handles of insulin demonstration pens and finger stick devices over a five-year period, from 2006 to 2011, clinic officials said Monday.

Both Craig Samitt, Dean's chief executive officer, and Mark Kaufman, chief medical officer, described the risk as "small" because the educator, who worked out of the Dean clinic on Stoughton Road...

Hepatitis B vaccine

• HBV vaccine is recommended for diabetics
  – age 19 through 60
    • DM associated with 2-fold increased risk of hepatitis B
  – at time of diagnosis for new diabetics
  – as soon as feasible
  – Routine 3 dose schedule

• HBV vaccine may be provided to diabetics
  – > 60 years
    • Non-significant 45% increase in risk
Closing the Gap

What are the gaps?

Where are the gaps?

How do we close the gaps?
Gaps in Attitude

- Survey of 954 primary care physicians in 2012
  - General Internists (79% response rate)
  - Family Physicians (62% response rate)

- For a 67 year-old patient how important is...

Gaps in Access: the Medical Home

U.S. coverage rates for insured persons aged ≥65 years

Gaps due to Disparity

U.S. coverage rates whites and blacks aged ≥65 years

Closing the Gap

What are the gaps?
Where are the gaps?
How do we close the gaps?
Closing the Gap

Understanding Ourselves

Tools for self-reflection
Wisconsin Collaborative for Healthcare Quality
http://www.wchq.org/reporting/
<table>
<thead>
<tr>
<th>MEASURES</th>
<th>CLINICAL TOPIC</th>
<th>MEASURE TYPE</th>
<th>IOM IMPROVEMENT AIM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADOLESCENT IMMUNIZATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adolescent Immunization Status</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>BREAST CANCER SCREENING</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Breast Cancer Screening</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>CERVICAL CANCER SCREENING</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Cervical Cancer Screening</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>CHILDHOOD IMMUNIZATIONS</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Childhood Immunization Status</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>COLORECTAL CANCER SCREENING</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Colorectal Cancer Screening</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>OSTEOPOROSIS SCREENING</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Screening for Osteoporosis</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>CKD SCREENING</td>
<td>Chronic Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Chronic Kidney Disease: Screening</td>
<td>Chronic Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>ADULT PNEUMOCOCCAL VACCINATION</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Adults with Pneumococcal Vaccinations</td>
<td>Preventive Care</td>
<td>Medical Group</td>
<td>Effectiveness</td>
</tr>
</tbody>
</table>
### Adults with Pneumococcal Vaccinations

The results below represent 489,487 men and women who should have had a Pneumococcal Vaccination. Read More About This Measure

<table>
<thead>
<tr>
<th>Clinic Name</th>
<th>N</th>
<th>Rank</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Froedtert &amp; The Medical College of Wisconsin</td>
<td>27093</td>
<td>PREFERRED</td>
<td>92.75 %</td>
</tr>
<tr>
<td>Gundersen Clinic, Ltd</td>
<td>26345</td>
<td></td>
<td>92.44 %</td>
</tr>
<tr>
<td>ThedaCare Physicians</td>
<td>24555</td>
<td></td>
<td>91.55 %</td>
</tr>
<tr>
<td>UW Health Physicians</td>
<td>29870</td>
<td></td>
<td>90.34 %</td>
</tr>
</tbody>
</table>
Adult Immunization Coverage Rates

tables and maps by county and public health region

https://www.dhs.wisconsin.gov/immunization/data.htm

Immunization Data

Vaccination coverage rates

Unless otherwise specified, the data source for the immunization rates presented below is the Wisconsin Immunization Registry.

Influenza

- 2015-2016 weekly report [PDF, 428 KB]
- 2014-2015 summary [PDF, 575 KB]
- Influenza vaccination rates among people with asthma [PDF, 174 KB]
Advanced Public Health Data Mapping

https://www.dhs.wisconsin.gov/epht/index.htm
Closing the Gap
Standards of Adult Vaccine Practice

National Vaccine Advisory Committee (NVAC) revised the Standards for Adult Immunization Practice in 2013
Recommendations from the National Vaccine Advisory Committee: Standards for Adult Immunization Practice

The Advisory Committee on Immunization Practices (ACIP) makes recommendations for routine vaccination of adults in the United States. Standards for implementing the ACIP recommendations for adults were published by the National Vaccine Advisory Committee (NVAC) in 2003 and by the Infectious Diseases Society of America in 2009. In addition, NVAC published a report in 2012 outlining a pathway for improving adult immunization rates. While most of these documents included guidelines for immunization practice, recent changes in the practice climate for adult immunization necessitated an update of existing adult immunization standards. Some of these changes include expansion of vaccination services offered by pharmacists and other community immunization providers both during and since the 2009 H1N1 influenza pandemic; vaccination at the workplace; increased vaccination by providers who care for pregnant women; and changes in the health-care system, including the Affordable Care Act (ACA), which requires first-dollar coverage of ACIP-recommended vaccines.
Standards of Adult Vaccine Practice

• **ASSESS immunization status of all your patients at every clinical encounter**
  – Stay informed. Get the latest CDC recommendations for immunization of adults.
  – Implement protocols and policies. Ensure that patients' vaccine needs are routinely reviewed and patients get reminders about vaccines they need.
<table>
<thead>
<tr>
<th>Date</th>
<th>D/C Date</th>
<th>Enc Type</th>
<th>Location</th>
<th>Clinic/Service</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Appointment</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC MEDICAL RECORDS</td>
<td>Scanning, Provider</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>UWMF HEALTHLINE</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office Visit</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Smith, Kelly S, CDE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refill</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OP Visit</td>
<td>UWH LAB HOV ENCOUNTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Refill</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office Visit</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office Visit</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Dalby, Jessica W, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Telephone</td>
<td>ACHC WINGRA PARK FISH FAM MED CENTER</td>
<td>Temte, Jon, MD</td>
<td></td>
</tr>
</tbody>
</table>
# Wisconsin Immunization Registry

## Client Information

- **Client Name:** [Redacted]
- **DOB:** [Redacted]
- **Gender:** [Redacted]
- **Mother’s Maiden:** [Redacted]
- **Tracking Schedule:** [Redacted]
- **Chart #:** [Redacted]
- **Address:** [Redacted]
- **Comments:** [Redacted]

## History

<table>
<thead>
<tr>
<th>Vaccine Group</th>
<th>Date Administered</th>
<th>Series</th>
<th>Trade Name (Vaccine)</th>
<th>Dose</th>
<th>Owned?</th>
<th>Reaction</th>
<th>Hist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>11/18/1997</td>
<td>Booster</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/08/1996</td>
<td>Booster</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/08/1996</td>
<td>Booster</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/23/2006</td>
<td>Booster</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12/24/2006</td>
<td>Booster</td>
<td></td>
<td></td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/19/2006</td>
<td>Booster</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/07/2006</td>
<td>Booster</td>
<td>Fluzone®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10/15/2010</td>
<td>Booster</td>
<td>Fluzone®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/22/2010</td>
<td>Booster</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09/19/2011</td>
<td>Booster</td>
<td>Fluzone®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09/19/2011</td>
<td>Booster</td>
<td>Fluzone®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09/19/2013</td>
<td>Booster</td>
<td></td>
<td></td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11/17/2014</td>
<td>Booster</td>
<td>Fluzone High-Dose®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09/17/2015</td>
<td>Booster</td>
<td>Fluzone High-Dose®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza A H1N1</td>
<td>01/25/2010</td>
<td>Booster</td>
<td></td>
<td></td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pertussis/Tdap</td>
<td>02/27/2013</td>
<td>1 of 1</td>
<td>Adacel®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneum-Poly</td>
<td>10/06/1999</td>
<td>1 of 3</td>
<td>(Pneumococcal 23)</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12/19/2005</td>
<td>2 of 3</td>
<td>Pneumovax 23®</td>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>04/15/2005</td>
<td>3 of 3</td>
<td>Provnar 13®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Td</td>
<td>10/07/2009</td>
<td>1 of 1</td>
<td>DECAVAC®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>02/27/2013</td>
<td>Booster</td>
<td>Adacel®</td>
<td>Full</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Current Age: 77 years, 8 months, 13 days

### Vaccines Recommended by Selected Tracking Schedule

<table>
<thead>
<tr>
<th>Vaccine Group</th>
<th>Earliest Date</th>
<th>Recommended Date</th>
<th>Overdue Date</th>
<th>Latest Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>06/01/2016</td>
<td>05/01/2016</td>
<td>12/17/2016</td>
<td></td>
</tr>
<tr>
<td>Pertussis/Tdap</td>
<td>Complete</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneum-Poly</td>
<td>Complete</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Td</td>
<td>02/27/2013</td>
<td>02/27/2023</td>
<td>04/27/2023</td>
<td></td>
</tr>
</tbody>
</table>
Standards of Adult Vaccine Practice

• Strongly RECOMMEND vaccines that patients need
  – Share tailored reasons why vaccination is right for the patient.
  – Highlight positive experiences with vaccination.
  – Address patient questions and concerns.
  – Remind patients that vaccines protect them and their loved ones against a number of common and serious diseases.
  – Explain the potential costs of getting sick.
Standards of Adult Vaccine Practice

• ADMINISTER needed vaccines or REFER your patients to a vaccination provider.
  – Offer the vaccines you stock.
  – Refer patients to providers in the area that offer vaccines that you don't stock.
Consider new partners

<table>
<thead>
<tr>
<th>Year</th>
<th>New</th>
<th>Cumulative</th>
<th>Pharmacy Sites Actively Submitting Data to the WIR (n %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>102</td>
<td>326(^a)</td>
<td>98 (30.1)</td>
</tr>
<tr>
<td>2012</td>
<td>271</td>
<td>597</td>
<td>339 (56.8)</td>
</tr>
<tr>
<td>2013</td>
<td>21</td>
<td>618</td>
<td>366 (59.2)</td>
</tr>
<tr>
<td>2014</td>
<td>8</td>
<td>626</td>
<td>375 (59.9)</td>
</tr>
</tbody>
</table>

\(^a224\) pharmacies have WIR enrollment dates prior to 2011.

Petit AB, Bramer C, Jacobs M et al. Adult Influenza Vaccinations Reported to the Wisconsin Immunization Registry by Retail Pharmacies, 2011-2014. JPSWI 2015
Standards of Adult Vaccine Practice

• DOCUMENT vaccines received by your patients
  – Participate in your state's immunization registry. Help your office, your patients, and your patients' other providers know which vaccines your patients have had.
  – Follow up. Confirm that patients received recommended vaccines that you referred them to get from other immunization providers.
Wisconsin’s Gem

https://www.dhs.wisconsin.gov/immunization/wir.htm

Wisconsin Immunization Registry (WIR)

The Wisconsin Immunization Registry (WIR) is a computerized internet database application that was developed to record and track immunization dates of Wisconsin children and adults. Immunization registries are an integral tool for assuring that children and adults receive immunizations according to recommended schedules, and can prevent over-immunizing.

Information on this page has been organized into two categories. Please choose one of the following tabs.

Public Access

Public Immunization Record Access allows individuals, parents, or legal guardians to look up their own or their child's immunization record in the WIR. Many people in Wisconsin receive immunizations from more than one provider. Without access to the immunization information, it can be difficult to know which vaccine you or your child needs at any particular time. Offering parents and guardians access to look up their child’s immunizations can decrease the number of patient requests to providers for immunization records.

- English - Public Immunization Record Access
- Spanish - Acceso Publico del Registro de Inmunización
- Hmong - Tshawb Nhiajv Txog Kev Tjhaj Tshuaj Cov Ntahn Ntawv
Summary points

• Increasingly aging population
• Increasingly diverse population
• Gaps exist
  – Attitudes
  – Access to a medical home
  – Disparities due to race and ethnicity
  – Immunosenescence
• Standards for Adult Immunization Practice
  – Assess
  – Recommend
  – Administer
  – Document
Contact Information

Jonathan L. Temte, MD/PhD
Professor of Family Medicine and Community Health
University of Wisconsin School of Medicine and Public Health

Jon.temte@fammed.wisc.edu