The Public Health Case for Adult Immunizations in New Jersey and Beyond

Tina Tan, MD, MPH
State Epidemiologist/Assistant Commissioner
Division of Epidemiology, Environmental and Occupational Health

NJ Health
New Jersey Department of Health
Disclaimer

- *I have no financial interests or other relationships with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters. Planners have reviewed content to ensure there is no bias*

- *This presentation will not include any discussion of the unlabeled use of a product or a product under investigational use*
Rationale for Adult Immunization

• Vaccine-preventable diseases have no age limits
• Vaccines protect the individual and the community
• Some adults may not have received all age-appropriate immunizations or have waning immunity from past vaccinations
• The immune system declines with age

Rationale for Adult Immunization

• Even healthy people can get sick enough to miss work or school
• There are few settings where adult immunization is required
• There are specific vaccines targeting adults
• We need to build on the success we achieved with childhood and adolescent immunization coverage
Burden of Disease Among U.S. Adults for Diseases with Vaccines Available

- **Influenza disease burden varies year to year**
  - Millions of cases and average of 226,000 hospitalizations annually with >75% among adults
  - 3,000-49,000 deaths annually, >90% among adults

- **Invasive pneumococcal disease (IPD)**
  - 39,750 total cases and 4,000 total deaths in 2010
    - 86% of IPD cases and nearly all IPD deaths among adults

- **Pertussis (whooping cough)**
  - >28,000 total reported cases 2013 and 2014
    - ~9,000 among adults

- **Hepatitis B**
  - 3,350 acute cases reported 2010
    - 35,000 estimated cases

- **Zoster (shingles)**
  - About 1 million cases of zoster annually U.S.

### Recommended Adult Immunization Schedule—United States - 2015

**Figure 1. Recommended adult immunization schedule, 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></td>
<td>Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/Tdap)</td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella</td>
<td>3 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</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal 13-valent conjugate (PCV13)</td>
<td>1 or 2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV23)</td>
<td>1 or 2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal</td>
<td>1 or more doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 or 3 doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster.

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication).

No recommendation.

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/vaccinerescompensation](http://www.hrsa.gov/vaccinerescompensation) 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. 20001; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, including available data, and contraindications for vaccination are 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 American College of Physicians (ACP), the American Academy of Ophthalmologists (AAO), and the American Academy of Nurse-Midwives (ACNM).

Source: CDC. Recommended Adult Immunization Schedule, by Vaccine and Age Group. [http://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html](http://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html)
Adult Immunization—United States

Unfortunately, far too few adults are receiving the recommended vaccines, leaving themselves and their loved ones vulnerable to serious diseases.

According to CDC data, in 2013:

- Only 17% of adults 19 years or older had received Tdap vaccination
- Only 24% of adults 60 years or older had received shingles (herpes zoster) vaccination
- Only 21% of adults 19 to 64 years at high risk had received pneumococcal vaccination
- Only 59% of adults aged 65 years or older received pneumococcal vaccination

Adults 65 and Older

• It’s estimated between 80 percent and 90 percent of seasonal flu-related deaths have occurred in people 65 years of age and older and between 50 percent and 70 percent of seasonal flu-related hospitalizations have occurred among people in that age group.

• Since older adults are at an increased risk of getting pneumonia, a complication of the flu, pneumococcal vaccine is also recommended for this age group.

CDC. What You Should Know and Do this Flu Season, If You are 65 Years of Age and Older. http://www.cdc.gov/flu/about/disease/65over.htm
Flu Vaccination Rates, Ages 65+, NJ and US 2012-2013

Source: CDC Behavioral Risk Factor Surveillance System (BRFSS)
Note: US rate is median rate for 50 states and DC
Flu Vaccination Rates by Age Group and Survey Year, NJ 2011-2014

Source: Center for Health Statistics and Informatics. New Jersey Behavioral Risk Factor Survey (NJBRFS), unpublished preliminary data
Influenza Vaccination of Pregnant Women

- Reduce risk of influenza illness in pregnant women
- Reduce risk of influenza illness, fevers and influenza hospitalizations in infants during first 6 months of life
- Vaccinate with inactivated flu vaccine (not live vaccine) during pregnancy

Seasonal Influenza Vaccinations Among Women Who Recently Had a Live Birth, New Jersey 2009-2010

- Provider recommended/offered vaccination: 54.2%
- Provider did not recommend/offer vaccination: 10.2%

Reasons for Not Getting a Seasonal Flu Shot Among Women Who Recently Had a Live Birth New Jersey 2009-2010

- I don’t normally get a seasonal flu shot: 72.7%
- I was worried that the seasonal flu shot might harm my baby: 51.1%
- I was worried about side effects of the seasonal flu shot for me: 50.0%
- My doctor didn’t mention anything about a seasonal flu shot during my pregnancy: 34.4%
- Other reason: 22.3%

Healthcare Personnel

- Higher vaccination levels have been associated with a lower risk of health care facility-associated influenza cases.

- Influenza outbreaks in hospitals and long-term care facilities have been attributed to low influenza vaccination coverage.

- Higher influenza vaccination levels among can reduce influenza-related illness, and even deaths, in settings like nursing homes.

Objective of the Etiology of Pneumonia in the Community (EPIC) was to assess the association between influenza vaccination status and hospitalization for community-acquired laboratory-confirmed influenza pneumonia.

EPIC was a prospective observational multicenter study conducted from January 2010 through June 2012 at 4 US sites. Logistic regression was used to calculate odds ratios, comparing the odds of vaccination between influenza-positive (case) and influenza-negative (control) patients with pneumonia.

Among children and adults hospitalized with community-acquired pneumonia, those with laboratory-confirmed influenza-associated pneumonia, compared with those with pneumonia not associated with influenza, had lower odds of having received influenza vaccination (Adjusted odds ratio was 0.43).

- NJ is the lowest in the US for HCP influenza vaccination
- Improved from 62.4% (2013-14 season) to 68.7% (2014-15)
- US rates were 81.8% and 84.5% for the past 2 seasons

Source: NHSN Healthcare Personnel Influenza Vaccination Summary Data Tables by State, Acute Care Hospitals
What do they all have in common?

They are all at increased risk for an infection called pneumococcal disease.

- **Pneumococcal disease** can cause pneumonia, meningitis, or bloodstream infection (sepsis), which can lead to severe complications, hospitalizations, or death.

Getting vaccinated is the safest, most effective way to protect yourself.

Nearly **one million people** get pneumococcal pneumonia in the US every year and 5 to 7 percent of them die.

Pneumococcal meningitis and bloodstream infection are less common, but more deadly.

One in every four to five people over the age of 65 who get it will die.

Ask your healthcare provider about pneumococcal vaccination today.

Medicare and most private insurers cover the cost of vaccination for those who need it.

Everyone 65 and older and all adults with certain health conditions are at risk.

Learn more at: adultvaccination.org/pneumococcal

---


Pneumococcal Vaccination Rates, Ages 65+
NJ and US 2011-2013

Source: CDC Behavioral Risk Factor Surveillance System (BRFSS)
Note: US rate is median rate for 50 states and DC
Zoster (Shingles) Vaccine

- About 1 out of every 3 people will get shingles in their lifetime

- One out of six people older than 60 years who get shingles will have severe pain which can last for months or even years

- Shingles may also lead to serious complications involving the eye

- Very rarely, shingles can also lead to pneumonia, hearing problems, blindness, brain inflammation (encephalitis), or death

Shingles Vaccination Rates, Ages 50-59 and 60+
By Gender - NJ 2014

Source: Center for Health Statistics and Informatics. New Jersey Behavioral Risk Factor Survey (NJBRFS), unpublished preliminary data
Pregnancy and Pertussis

Tdap Vaccine

• All adults need a one-time dose of tetanus, diphtheria, acellular pertussis (Tdap)

• Expectant mothers should get one dose of Tdap during each pregnancy, preferably at 27 through 36 weeks.

• 4 out of 5 babies who get whooping cough catch it from someone at home

Responses to “Since 2005, have you had a tetanus shot?”
NJ and US 2013

Source: CDC Behavioral Risk Factor Surveillance System (BRFSS)
Note: US rate is median rate for 50 states and DC
Reasons for Low Adult Immunization Rates

- Adults not aware of vaccines they need
- Healthcare providers for adults busy and often have
  - Competing priorities
  - Incomplete vaccination history
- Not all providers stock all vaccines for adults
- Adults frequently see multiple providers, so vaccine history recordkeeping difficult
- Reimbursement for vaccines confusing, unclear

Opportunities for Adult Immunization

- Adults not aware of vaccines they need... but most patients will accept vaccines if recommended by trusted healthcare provider
- Healthcare providers for adults are busy and have competing priorities... but healthcare providers think immunizations are important for their patients
- Not all providers stock all vaccines for adults... but access to vaccines is increasing
- Adults frequently see multiple providers and recordkeeping is difficult... but state vaccine registries include adult immunizations

New Jersey Immunization Information System (NJIIS)

- A free, confidential, population-based online system that collects and consolidates vaccination data for New Jersey's children and adults.
- The official immunization registry for the State of New Jersey (N.J.A.C. 8:57-3)
- In operation since 1997
- Healthcare providers that immunizes children less than seven (7) years of age are required by State regulation to enroll as an authorized user of NJIIS and report vaccinations to NJIIS.
  - Mandatory participation is stipulated in New Jersey Administrative Code, N.J.A.C. 8:57-3.16
How NJIIS Benefits Medical Practices

• Produces an official immunization record
• Consolidates immunization information from all health care providers
• Reduces over-vaccination of new patients
• Generates reminder/recall notices
• Manages and maintains vaccine inventory
• Reduces paperwork and staff time spent obtaining records and responding to record requests
• Aids in documentation to facilitate proper reimbursement by tracking administered vaccines
• Runs reports and tracks Healthcare Effectiveness Data and Information Set (HEDIS) measures
• Qualifies as a meaningful use measure for the Medicare and Medicaid Electronic Health Records (EHR) Incentive Program
NJIIS: Consent to Participate

• Individuals born on or after January 1, 1998:
  o Automatically enrolled in NJIIS via data from the electronic birth certificate

• Individuals born before January 1, 1998
  o Must complete a “NJIIS Consent to Participate” form
  o This can be a barrier for adult participation in NJIIS
NJIIS and Adult Immunization

- NJIIS receives adult immunization data through interfaces with pharmacies, hospitals, family practices, internal medicine practices, and other providers that immunize adults.

- 69 pharmacy locations now reporting into NJIIS via interface

- Future updates for NJIIS will include adult vaccine forecasting and the use of reminder/recall functions for adult vaccination
Seize Opportunities to Improve Adult Immunization

• Affordable Care Act (ACA)
  o More adults insured
  o Requires insurance for adults and children to include vaccination
  o Improved access to vaccines through public and private insurance

• Since nearly all children covered through Vaccines for Children or private insurance, more of available Section 317 vaccine purchase funds can be used to vaccinate uninsured adults

The New Jersey 317-Funded Adult (317) Program

• 1,150 providers enrolled
• Eligible patients:
  o are 19 years of age and older with no insurance coverage for the ACIP-recommended vaccines
  o are privately-insured individuals of any age seeking vaccines during public health response activities including:
    ▪ Outbreak response
    ▪ Post-exposure prophylaxis
    ▪ Disaster relief efforts
<table>
<thead>
<tr>
<th>Vaccines offered through NJ Adult 317 Program</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Influenza (Flu)</strong></td>
<td>Meningococcal B</td>
</tr>
<tr>
<td><strong>Human Papillomavirus (HPV)</strong></td>
<td>Pneumococcal</td>
</tr>
<tr>
<td><strong>Hepatitis A</strong></td>
<td>Tetanus, diphtheria (Td)</td>
</tr>
<tr>
<td><strong>Hepatitis B</strong></td>
<td>Tetanus, diphtheria, pertussis (Tdap)</td>
</tr>
<tr>
<td><strong>Measles, Mumps, Rubella (MMR)</strong></td>
<td>Varicella</td>
</tr>
<tr>
<td><strong>Meningococcal</strong></td>
<td>Zoster</td>
</tr>
</tbody>
</table>
NJ Initiatives to Improve Adult Immunization

- Providing educational presentations
- Promoting access to vaccines
- Celebrating national immunization awareness events
- Developing educational materials
- Collaborating with partners
For the 5th consecutive year, NJDOH partnered with Walgreens Pharmacies to offer free flu vouchers to local health departments (LHDs).

LHDs offer vouchers to adults who are uninsured or underinsured to better serve members of their communities.

To date, approximately 10,000 vouchers have been distributed over the past five years.
Love Them...Protect Them
Immunize Them

Hi Mom,
Get your WHOOPING COUGH and FLU SHOTS! It will protect us both.

Love,
Your Baby

P.S. Once I am born, I will need my HEPATITIS B VACCINE before I leave the hospital.

Thanks,
see you soon!

Baby's First Picture

NJ Health
New Jersey Department of Health
www.nj.gov/health

For current vaccine recommendations, visit www.cdc.gov/vaccines
Educating about Vaccines Recommended for Healthcare Personnel

If you work directly with patients or handle material that could spread infection, you should get appropriate vaccines to reduce the chance that you will get or spread vaccine-preventable diseases.

**PROTECT YOUR PATIENTS**

**PROTECT YOURSELF**

**PROTECT YOUR FAMILY**

**INFLUENZA:**
Get a flu vaccination every year. Unvaccinated healthcare personnel can spread influenza to patients and are a key cause of influenza outbreaks among patients and long-term care residents.

**HEPATITIS B:**
Hepatitis B vaccine protects nearly all who are in contact with blood, body fluids, or used needles. A three-dose series of hepatitis B vaccine is recommended.

**MEASLES/MUMPS/RUBELLA (MMR):**
Healthcare personnel are at higher risk than the general population for becoming infected with measles. Two doses of measles and mumps vaccine and at least one dose of rubella vaccine are recommended.

**TETANUS/DIPHTHERIA/PERTUSSIS:**
Most healthcare personnel will need a one-time dose of Tdap followed by Td boosters every ten years. To protect babies from pertussis, pregnant women need a dose of Tdap vaccine with each pregnancy.

**VARICELLA (CHICKENPOX):**
Varicella can be transmitted by patients, staff, and visitors. Two doses of varicella vaccine are recommended.

Healthcare facilities should review their current policies regarding acceptable proof of immunity of health care personnel. For more information, visit Immunization of Healthcare Personnel: Recommendations of the Advisory Committee on Immunization Practices: [http://www.cdc.gov/mmwr/pdf/rr/rr6007.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr6007.pdf)

Rx: Get Your Flu Shot to Protect Yourself and Your Patients

Your patients are depending on you—get your flu vaccine each year!
Collaborative Efforts

• NJIN
• Office of Minority and Multicultural Health
• Office of Cancer Control and Chronic Disease Coalitions
• Maternal Child Health Consortia
• Health Service Grantees
Evidence-Based Strategies to Increase Adult Immunization Rates

- Home visits
- Reducing client out-of-pocket costs
- Client or family incentive rewards
- Client reminder/recall
- Health care-based interventions when implemented in combination with other strategies
- Provider reminder systems
- Provider assessment and feedback
- Standing orders
- Immunization information systems
- Community based interventions used in combination with other strategies

Source: The Guide to Community Prevention Services: What Works to Promote Health
http://www.thecommunityguide.org/vaccines/index.html
STANDARDS FOR ADULT IMMUNIZATION PRACTICE

- Assess
- Recommend
- Administer or Refer
- Document

Coming together is a beginning; keeping together is progress; working together is success.