Immunization Recommendations for Adults Living With HIV/AIDS and ND Ryan White Immunization Reminder/Recall

Molly Howell, MPH
Immunization Program Manager
Routinely recommended inactivated vaccines for all adults, regardless of HIV status
## 2017 Recommended Immunizations for Adults: By Age

**Information for Adult Patients**

**If you are this age,** talk to your healthcare professional about these vaccines:

<table>
<thead>
<tr>
<th>Age</th>
<th>Flu Influenza</th>
<th>Tet/DtaP</th>
<th>Shingles</th>
<th>Pneumococcal</th>
<th>Meningococcal</th>
<th>MMR</th>
<th>HPV</th>
<th>Chickenpox</th>
<th>Hepatitis A</th>
<th>Hepatitis B</th>
<th>Hib</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-21y</td>
<td>recommended</td>
<td>recommended</td>
<td>suggested</td>
<td>PCV13</td>
<td>MenACWY or MPSV4</td>
<td>MenR</td>
<td>Men lower dose for men</td>
<td>recommended</td>
<td>recommended</td>
<td>recommended for women</td>
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<td>22-26y</td>
<td>recommended</td>
<td>recommended</td>
<td>suggested</td>
<td>PCV13</td>
<td>MenACWY or MPSV4</td>
<td>MenR</td>
<td>Men lower dose for men</td>
<td>recommended</td>
<td>recommended</td>
<td>recommended for women</td>
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<tr>
<td>27-59y</td>
<td>recommended</td>
<td>recommended</td>
<td>suggested</td>
<td>PCV13</td>
<td>MenACWY or MPSV4</td>
<td>MenR</td>
<td>Men lower dose for men</td>
<td>recommended</td>
<td>recommended</td>
<td>recommended for women</td>
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<tr>
<td>60-64y</td>
<td>recommended</td>
<td>recommended</td>
<td>suggested</td>
<td>PCV13</td>
<td>MenACWY or MPSV4</td>
<td>MenR</td>
<td>Men lower dose for men</td>
<td>recommended</td>
<td>recommended</td>
<td>recommended for women</td>
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<tr>
<td>65+</td>
<td>recommended</td>
<td>recommended</td>
<td>suggested</td>
<td>PCV13</td>
<td>MenACWY or MPSV4</td>
<td>MenR</td>
<td>Men lower dose for men</td>
<td>recommended</td>
<td>recommended</td>
<td>recommended for women</td>
<td></td>
</tr>
</tbody>
</table>

**More Information:**
- Flu: You should get flu vaccine every year.
- Tet/DtaP: You should get a Td booster every 10 years. You also need 1 dose of Tdap. Women should get a Tdap vaccine during every pregnancy to help protect the baby.
- Shingles: You should get shingles vaccine even if you have had shingles before.
- Pneumococcal: You should get 1 dose of PCV13 and at least 1 dose of PPSV23 depending on your age and health condition.
- Meningococcal: You should get this vaccine if you did not get it when you were a child.
- HPV: You should get HPV vaccine if you are a woman through age 26 years or a man through age 21 years and did not already complete the series.

**Recommended For You:**
- This vaccine is recommended for you unless your healthcare professional tells you that you do not need it or should not get it.

**May Be Recommended For You:**
- This vaccine is recommended for you if you have certain risk factors due to your health condition or other. Talk to your healthcare professional to see if you need this vaccine.

If you are traveling outside the United States, you may need additional vaccines. Ask your healthcare professional about which vaccines you may need at least 6 weeks before you travel.

For more information, call 1-800-CDC-INFO (1-800-232-4636) or visit www.cdc.gov/vaccines
Inactivated vaccines are recommended the same as for non-HIV infected persons

- All HIV-infected patients should have all routinely recommended *inactivated* vaccines based on their age (Tdap, influenza, polio, hepatitis A, etc.).

- Only exceptions (live vaccines) would be Zoster, MMR and varicella if patient is not immunocompetent.
Influenza

- Influenza is a contagious, respiratory illness caused by a virus.
- Fever, cough, sore throat, body aches, runny/stuffy nose, etc.
- Complications of influenza can include bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions.
- People with HIV and AIDS are at high risk of serious influenza-related complications.
- Studies done before routine use of highly active antiretroviral therapy (HAART) suggested an increased risk for heart- and lung-related hospitalizations in people infected with HIV during influenza season as opposed to other times of the year, and a higher risk of influenza-related death in HIV-infected people.
- Other studies have indicated that influenza symptoms might be prolonged and the risk of influenza-related complications is higher for certain HIV-infected people.

https://www.cdc.gov/flu/protect/hiv-flu.htm
Influenza

• Annual vaccination is recommended for all persons aged ≥6 months.

• Everyone should get flu vaccine by the end of October, if possible.

• High-dose flu vaccine is an option for persons aged ≥65.
  * High-dose vaccine was 24.2% more effective in preventing flu in adults 65 years of age and older relative to a standard-dose vaccine.

• Influenza vaccination is also recommended for people who are in contact with those at high risk for complications due to influenza (i.e., household contacts of people with HIV/AIDS).

For more information https://www.cdc.gov/vaccines/vpd/flu/index.html
Tetanus, Diphtheria, Pertussis (Tdap)

- Tetanus, diphtheria, and acellular pertussis vaccine (Tdap, Boostrix®, Adacel®)

- Protects against tetanus, diphtheria, and pertussis (whooping cough).

- A single dose of Tdap is recommended for adolescents and adults.

- A one-time dose of Tdap should replace the Td booster that is recommended every 10 years.

- Pregnant women need Tdap during each pregnancy (preferable 27 – 36 weeks gestation).

- If Td vaccine is unavailable for booster doses, then use Tdap.

For more information: https://www.cdc.gov/vaccines/vpd/pertussis/index.html
Human Papillomavirus (HPV)

- HPV Vaccine (Gardasil 9®)
  - Protects against nine strains of HPV that cause cancers (anal, cervical, oropharyngeal, etc.) and genital warts.
  - Recommended for males and females through age 26 who did not get any or all doses when they were younger.
- New schedule:
  - If first dose of HPV vaccine was administered prior to 15th birthday, then only two doses are needed (six months apart).
  - If first dose of HPV vaccine was administered at age 15 or older, then three doses are needed at 0, 1-2, and 6 months.
  - People living with HIV/AIDS should always receive three dose schedule!
Hepatitis A

- Hepatitis A (HAV, Hep A) is an acute, highly contagious liver infection.
  - Spread fecal-oral

- HAV vaccine:
  - Two doses, six months apart
  - Routinely recommended for all children at ages 12 – 23 months

- Hepatitis A outbreaks among men who have sex with men (MSM) have been reported frequently.

- Since 1996, there has been a recommendation for hepatitis A vaccination of MSM.

For more information: https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html
Routinely recommended live vaccines for all adults, regardless of HIV status
Live Vaccines

• Contain weakened viruses

• Administration of live vaccines to people with HIV is dependent on CD4 count.

• Local public health may want to refer HIV-infected individuals to a primary care provider for live vaccines.
MMR (measles, mumps, and rubella)

- For people born in 1957 or later, two doses, at least 28 days apart.
- Most people are vaccinated as children.
- For persons older than 5 years of age, CD4+T lymphocyte percentages of 15% or greater and CD4 count of at least 200 lymphocytes/mm$^3$ for at least 6 months.

For more information: https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html
Varicella (Chickenpox)

- People born in 1980 or after need two doses.
  - Three months apart for people younger than 13
  - Four weeks apart for people 13 and older

- May be considered for adolescents and adults with CD4+T lymphocyte counts ≥200 cells/μL.

For more information: [https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html](https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html)
**Zoster (shingles)**

- **Zostavax® (Merck) live, attenuated vaccine**
- A single dose of zoster vaccine is recommended for all adults ≥60 years.
- Contraindicated for persons with AIDS or other clinical manifestations of HIV, including persons with CD4+ T-lymphocyte values ≤200 per mm³ or ≤15% of total lymphocytes.
- **Efficacy:** 51% zoster; 67% PHN
  - Reduced in older recipients
- **Duration of protection zoster**
  - Year 4: 45%
  - Year 9: 7%

For more information: [https://www.cdc.gov/vaccines/vpd/shingles/index.html](https://www.cdc.gov/vaccines/vpd/shingles/index.html)
New Zoster Vaccine

- **Shingrix® (GSK) inactivated subunit vaccine, 2 doses**
  - Efficacy: 97% zoster in persons ≥ 50 years
  - 91% in persons ≥ 70 years
  - Duration of protection is still to be confirmed
    - Year 4- 85% in persons ≥ 70 years
    - More local reactions than with Zostavax®

- FDA approval anticipated before next ACIP Meeting in October.
  - ACIP will make recommendations in October.
Vaccines specifically recommended for HIV-infected individuals
# 2017 Recommended Immunizations for Adults: By Health Condition

**If you have this health condition, talk to your healthcare professional about these vaccines:**

<table>
<thead>
<tr>
<th>Health Condition</th>
<th>Flu</th>
<th>Influenza</th>
<th>Td/Tdap</th>
<th>Tetanus, diphtheria, pertussis</th>
<th>Shingles</th>
<th>Zoster</th>
<th>Pneumococcal</th>
<th>Meningococcal</th>
<th>MMR</th>
<th>Measles, mumps, rubella</th>
<th>HPV</th>
<th>Human papillomavirus</th>
<th>Chickenpox</th>
<th>Varicella</th>
<th>Hepatitis A</th>
<th>Hepatitis B</th>
<th>HIB</th>
<th>Haemophilus influenzae type b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
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<td>Weakened Immune System</td>
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<td>HIV: CD4 count less than 200</td>
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<td>HIV: CD4 count 200 or greater</td>
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<td>Kidney disease or poor kidney function</td>
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<td>Aplasia (If you do not have a spleen or if it does not work well)</td>
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<td>Heart disease</td>
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<td>Chronic lung disease</td>
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<td>Chronic alcoholism</td>
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<td>Diabetes (Type 1 or Type 2)</td>
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<tr>
<td>Chronic Liver Disease</td>
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</tbody>
</table>

**More Information:**

- You should get flu vaccine every year.
- You should get Td vaccine every 10 years. You also need a Tdap vaccine if you are pregnant.
- You should get a tetanus vaccine if you are age 60 years or older, even if you have had tetanus before.
- You should get PCV13 and at least 1 dose of MenB, depending on your health condition.
- You should get HPV vaccine if you are a woman through age 26 years or a man through age 21 years and did not complete the series.
- You should get hepatitis A vaccine if you have had liver disease, have a splenic defect, or received a bone marrow transplant.

**May Be Recommended For You:**
- This vaccine is recommended for you if you have certain other risk factors due to your age, health condition or other. Talk to your healthcare professional to see if you need this vaccine.

**Recommended For You:**
- This vaccine is recommended for you unless your healthcare professional tells you that you do not need it or should not get it.
Hepatitis B

- Serious liver infection that may become chronic.
- Found in blood and body fluids.
- People with HIV may be at higher risk for HBV infection.
- Hepatitis B vaccine is recommended for all HIV-infected children, adolescents and adults who did not get any or all doses when they were younger.
  - Three dose series over six months (0, 1-2, and 6 months).
  - Post-vaccination serologic testing is recommended for persons with HIV infection.
    - Complete 1-2 months after hepatitis b series is complete.
    - If the series was previously started it can continued (do not restart the series).

For more information: https://www.cdc.gov/vaccines/vpd/vaccines-diseases.html
Meningococcal Disease

- Meningitis is a severe infection of the bloodstream and meninges (a thin lining covering the brain and spinal cord) caused by a bacteria or virus.
  - Bacterial meningitis is usually more severe than viral meningitis, but is less common.
  - The most severe form of bacterial meningitis is called *Neisseria meningitidis*.
  - It is a relatively rare disease and usually occurs as a single isolated event.
  - Clusters of cases or outbreaks are rare in the United States.

- Although surveillance data for cases of meningococcal disease among HIV-infected persons are limited in the United States, a growing body of evidence demonstrates an increased risk for meningococcal disease among HIV-infected persons.

- Meningococcal outbreaks have been seen in HIV infected patients, specifically men who have sex with men (Los Angeles, NYC, Chicago).
Meningococcal Conjugate Vaccine (MENACWY, MCV4)

- ACIP recommended MCV4 for people with HIV/AIDS in June 2016.
- Menactra® or Menveo®
- First dose should be administered at diagnosis.
- Second dose should follow by at least eight weeks.
- Patient should receive MCV4 booster doses every five years for their lifetime.
- If administering MenACWY-D (Menactra®) allow a four week interval between PCV13 and Menactra®.
  - Give PCV13 first with MCV4 four weeks later.
- Meningococcal B vaccine is not specifically recommended for people with HIV.

For more information [https://www.cdc.gov/mmwr/volumes/65/wr/mm6543a3.htm](https://www.cdc.gov/mmwr/volumes/65/wr/mm6543a3.htm)
Meningococcal
Pneumococcal

- Until 2000, pneumococcal infections caused 60,000 cases of invasive disease annually.
- Up to 40% of these infections were caused by drug-resistant *Streptococcus pneumoniae*.
- Pneumococcal bacteria are resistant to one or more antibiotics in 30% of cases.
- People with HIV/AIDS are at increased risk for pneumococcal disease.

For more information: [https://www.cdc.gov/vaccines/vpd/pneumo/index.html](https://www.cdc.gov/vaccines/vpd/pneumo/index.html)
Pneumococcal Vaccines

• There are two pneumococcal vaccines available in the United States.
  • Pneumococcal Conjugate Vaccine (PCV13, Prevnar®)
    • Only need once per lifetime!
  • Pneumococcal Polysaccharide Vaccine (PPSV23, Pneumovax®)

• Recommendations for HIV-infected adults with no history of pneumococcal vaccination:
  • First dose of pneumococcal vaccine should be PCV13.
  • A dose of PPSV23 should follow the PCV13 by at least 8 weeks.
  • The second dose of PPSV23 should be administered at least 5 years after the first dose of PPSV23.
    • Everyone needs one dose of PPSV23 after the age of 65.
<table>
<thead>
<tr>
<th>Date</th>
<th>Vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>January 1, 2016</strong></td>
<td>• PCV13</td>
</tr>
<tr>
<td></td>
<td>• MCV4 (If Menactra®, separate)</td>
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<tr>
<td><strong>March 1, 2016</strong></td>
<td>• PPSV23</td>
</tr>
<tr>
<td>(two months later)</td>
<td>• MCV4</td>
</tr>
<tr>
<td><strong>March 1, 2021</strong></td>
<td>• PPSV23</td>
</tr>
<tr>
<td>(five years later)</td>
<td>• MCV4 (booster again in 2026)</td>
</tr>
</tbody>
</table>
Pneumococcal Vaccines

- If previously received a dose of PCV13 and no PPSV23:
  - Administer PPSV23 at least 8 weeks after PCV13.
  - Administer a second dose of PPSV23 at least 5 years after the first dose of PPSV23.

- If previously received one PPSV23 and no PCV13:
  - Administer PCV13 at least one year after the PPSV23 dose.
  - Administer a second dose of PPSV23 at least 8 weeks after PCV13 and at least 5 years after the first dose of PPSV23.

- If previously received two PPSV23:
  - Administer PCV13 at least one year after the most recent dose of PPSV23.
Immunization Records
Immunization Information Systems

- All states have an immunization information system (IIS).
  - North Dakota Immunization Information System (NDIIS):  
  - Minnesota Immunization Information Connection (MIIC):  
    [http://www.health.state.mn.us/miic](http://www.health.state.mn.us/miic)

- IIS are an excellent source of immunization records for patients.

- Most electronic medical records are connected to IIS.

- Most IIS have forecasters, which will notify providers of which vaccines a patient is due for.
  - Does not include high risk recommendations (HIV).

- If a patient does not have an immunization record or is not in the IIS, then assume unvaccinated and vaccinate.
ND Ryan White Immunization Reminder/Recall
Ryan White/Immunization Program Goals

- Increase and sustain Ryan White participant immunization rates at 90% for the following vaccines:
  - Hepatitis A
  - Hepatitis B
  - HPV
  - Influenza
  - MMR
  - Pneumococcal Conjugate
  - Pneumococcal Polysaccharide
  - Meningococcal Conjugate
  - Tdap

- Ensure that all Ryan White clients are in the NDIIS.
  - February 2017: 214 Ryan White clients
    - 189 (88%) Ryan White clients were in the North Dakota Immunization Information System (NDIIS).
    - 25 (11.6%) clients did not have a record in the NDIIS.

- Incorporate immunization screening and education in the Ryan White enrollment and reenrollment process.

- Remove financial barriers to immunization services.
RW Immunization Training

- Provided an immunization training to RW and immunization coordinators prior to the enrollment cycle.
  - Training is available through the Immunization Program on an ongoing basis for existing and new staff.

- Provided NDIIS access and training prior to the enrollment cycle.
  - Training is available through the Immunization Program on an ongoing basis for existing and new staff.

- Provided immunization resources to assist with screening and participant education.
  - Immunization Action Coalition resources
  - Easy to read immunization schedule

- Offered immunization and NDIIS training for specialty providers.

- Provided high risk immunization education for healthcare providers throughout North Dakota.
Ryan White Immunization Reminder/Recall

- Client information (name, DOB, and Ryan White number) were provided to the Immunization Program for NDIIS query and record review.

- Client immunization records were extracted from the NDIIS.

- The Immunization Program evaluated client immunization records to:
  - Determine which vaccines were administered.
  - Determine what vaccines were needed for each client utilizing high risk immunization recommendations.
  - Provide immunization reminder letters for each client based on high risk recommendations.
  - Determine baseline, 30, 60, and 90 day statewide and local immunization rates for clients.
Increasing Ryan White Immunization Rates

- Immunization screening for clients during the enrollment/reenrollment process.
- Provided immunization education for Ryan White Case Managers during conference calls and webinars prior to enrollment cycle.
- Included age and diagnosis specific immunization reminder letters in the Ryan White enrollment packet.
- Conducted webinars at 30 and 90 day intervals to provide technical assistance and participant immunization rate review.
- Case Managers collaborated with local immunization staff to ensure vaccine administration and reimbursement.
August 31, 2017

Dear First Name,

The North Dakota Department of Health (NDDoH) recommends all adults receive recommended immunizations to provide protection against vaccine preventable diseases. According to the North Dakota Immunization Information System (NDIIS), you are due for the immunizations outlined in the table below. Please contact your primary healthcare provider or local public health unit to make an appointment to receive the recommended immunizations. Be sure to bring this letter with you to your appointment.

<table>
<thead>
<tr>
<th>Recommended Immunization(s)</th>
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</thead>
</table>

*Live vaccine - recommendation is based on the CD4 cell count. Please speak with your healthcare provider.

**Pneumovax is recommended to be administered 8 weeks after Prevnar® (PCV13).

***Allow a four week interval between Menactra® and pneumococcal conjugate (PCV13) vaccine administration.

Also, don’t forget your annual influenza vaccine. The flu can cause mild to severe illness, and in some cases it can cause death. If you have any questions, please contact the NDDoH Immunization Program at 701.328.3386 or 800.472.2180.

Sincerely,

Molly Howell

Molly Howell, MPH
Immunization Program Manager
Data Collection and Evaluation
February 2017 – North Dakota Ryan White Baseline Immunization Rates

Goal: 90%

Data source: North Dakota Immunization Information System (NDIIS) from 2017.
February 2017 – Ryan White Baseline Immunization Rates by Case Management Site

Data source: North Dakota Immunization Information System (NDIIS) from 2017.
June 2017 – Ryan White Part B Participant Immunization Rates (90 days)

Data source: North Dakota Immunization Information System (NDIIS) from 2017.
Ryan White Part B Participant Immunization Rates (90 days)

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<thead>
<tr>
<th></th>
<th>TDAP</th>
<th>PCV</th>
<th>PPSV</th>
<th>MCV</th>
<th>HAV A 1</th>
<th>HAV 2</th>
<th>HBV 1</th>
<th>HBV 2</th>
<th>HBV 3</th>
<th>HPV Dose 1</th>
<th>HPV Complete</th>
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<tbody>
<tr>
<td>Baseline</td>
<td>59.79%</td>
<td>60.85%</td>
<td>56.61%</td>
<td>12.17%</td>
<td>14.29%</td>
<td>8.47%</td>
<td>8.47%</td>
<td>28.04%</td>
<td>22.22%</td>
<td>43.75%</td>
<td>6.25%</td>
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<tr>
<td>30 Day</td>
<td>66.67%</td>
<td>68.78%</td>
<td>65.08%</td>
<td>26.46%</td>
<td>14.29%</td>
<td>8.47%</td>
<td>8.47%</td>
<td>30.16%</td>
<td>23.28%</td>
<td>43.75%</td>
<td>6.25%</td>
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<tr>
<td>60 Day</td>
<td>67.72%</td>
<td>69.84%</td>
<td>67.20%</td>
<td>32.80%</td>
<td>14.81%</td>
<td>8.47%</td>
<td>30.16%</td>
<td>30.16%</td>
<td>23.81%</td>
<td>43.75%</td>
<td>6.25%</td>
</tr>
<tr>
<td>90 Day</td>
<td>68.78%</td>
<td>70.90%</td>
<td>69.31%</td>
<td>35.45%</td>
<td>14.81%</td>
<td>8.99%</td>
<td>41.80%</td>
<td>31.75%</td>
<td>27.51%</td>
<td>43.75%</td>
<td>6.25%</td>
</tr>
<tr>
<td>Difference</td>
<td>8.99%</td>
<td>10.05%</td>
<td>12.70%</td>
<td>23.28%</td>
<td>0.52%</td>
<td>0.52%</td>
<td>33.33%</td>
<td>3.71%</td>
<td>5.29%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Target</td>
<td>90.00%</td>
<td>90.00%</td>
<td>90.00%</td>
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<td>90.00%</td>
</tr>
</tbody>
</table>

Data source: North Dakota Immunization Information System (NDIIS) from 2017.
Rate Evaluation

- Evaluate immunization rates at 30, 60, and 90 day intervals to determine vaccine uptake and participant immunization rates.

- Distribute summary sheets demonstrating site-specific immunization rates.
Ryan White Reenrollment

- Ryan White Program participation has increased to 250 participants.
  - During the reenrollment period 217 (86.8%) participants have immunization records in the NDIIS.
  - 33 (13.2%) Ryan White participants do not have records in the NDIIS.
- There will be one additional case management site.

<table>
<thead>
<tr>
<th></th>
<th>TDAP</th>
<th>PCV</th>
<th>PPSV</th>
<th>MCV</th>
<th>HAV 1</th>
<th>HAV 2</th>
<th>HBV1</th>
<th>HBV2</th>
<th>HBV3</th>
<th>HPV Dose 1</th>
<th>HPV Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrollment 90 Day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Rates (June)</td>
<td>59.79%</td>
<td>60.85%</td>
<td>66.1%</td>
<td>12.17%</td>
<td>14.81%</td>
<td>8.99%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Re-enrollment</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline (September)</td>
<td>68.66%</td>
<td>78.34%</td>
<td>64.98%</td>
<td>42.40%</td>
<td>14.75%</td>
<td>8.76%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data source: North Dakota Immunization Information System (NDIIS) from 2017.
September 2017 – NDIIS Reenrollment Baseline Rates

Data source: North Dakota Immunization Information System (NDIIS) from 2017.
Benefits of Immunization and Ryan White Collaboration

- Reduce susceptibility of vaccine-preventable diseases among individuals diagnosed with HIV/AIDS.
- Decrease medical costs related to vaccine-preventable diseases.
- Increase immunization rates among individuals diagnosed with HIV through:
  - Providing immunization education to Ryan White program staff.
  - Provide Ryan White Program staff training and access to the North Dakota Immunization Information System (NDIIS).
  - Provide client specific immunization messaging to Ryan White Program clients.
Ryan White Immunization Barriers

- Adult immunizations are not required to be entered into NDIIS.
- Infectious disease providers did not understand NDIIS.
- Some clients did not have records in NDIIS.
- The North Dakota Department of Health (NDDoH) Ryan White Program Coordinator and some Ryan White Case Managers did not have access to the NDIIS.
  - NDIIS does not contain a medical diagnosis.
  - NDIIS cannot provide high risk immunization forecasting.
- Case Managers and medical providers were not familiar with immunization recommendations for individuals diagnosed with HIV.
- Case managers did not discuss immunizations recommendations with Ryan White clients.
- Providers did not have all vaccines in stock.
- Clients experienced financial barriers to immunization services.
Lessons Learned

- Case managers have expressed the importance of immunizations for Ryan White participants.
- Build partnerships with Ryan White case managers and immunization staff.
- Build partnerships with local healthcare providers.
- Case managers feel the immunization screening is not too difficult and participants are responsive.
- Case management sites with the greatest rate increases:
  - Provided immunizations at the case management site.
  - Conducted client immunization follow-up.
  - Case manager conducted immunization training with healthcare providers.
Next Steps

• The NDDoH is expanding immunization reminder/recall to all individuals in North Dakota living with HIV/AIDS, not just Ryan White clients.

• Develop a process to streamline matching individual NDIIS and Maven (disease surveillance system) records utilizing SAS.

• Develop an immunization high risk forecaster that will apply immunizations for individuals with high risk conditions.
  • HIV
  • Diabetes
  • Smoking

• Expand the program to include additional high risk populations.

• Collaborate with Department of Health Programs to distribute immunization reminders where applicable i.e. Tobacco Program, Diabetes Program, etc.

• When collaboration is not possible, the Immunization Program will distribute immunization reminder letters to high risk individuals.
**Vaccinations for Adults with HIV Infection**

The table below shows which vaccinations you should have to protect your health if you have HIV infection. Make sure you and your healthcare provider keep your vaccinations up to date.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Do you need it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A (HPV)</td>
<td>Maybe. You need this vaccine if you have a specific risk factor for hepatitis A virus infection or simply want to be protected from this disease. The vaccine is usually given in 2 doses, 6-12 months apart.</td>
</tr>
<tr>
<td>Hepatitis B (HBV)</td>
<td>Yes! Because you are HIV positive, you might be at higher risk for hepatitis B virus infection. If you haven’t had a series of hepatitis B vaccinations, you need to get 3 doses. If you started the 3-dose series earlier but didn’t complete it, you can simply continue from where you left off. Ask your healthcare provider if you need screening blood tests for hepatitis B.</td>
</tr>
<tr>
<td>Hib (Haemophilus influenzae type b)</td>
<td>Maybe. Some adults with certain high-risk conditions, for example, lack of a functioning spleen, need vaccination with Hib. Talk to your healthcare provider to find out if you need this vaccine.</td>
</tr>
<tr>
<td>Human papilloma virus (HPV)</td>
<td>Yes! You should be vaccinated against HPV if you are age 26 years or younger. The vaccine is given in 3 doses over a 6-month period.</td>
</tr>
<tr>
<td>Influenza</td>
<td>Yes! You need a dose every fall (or winter) for your protection and for the protection of others around you.</td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td>Maybe. You need at least 1 dose of MMR vaccine if you were born in 1957 or later and have no HIV symptoms or only mild symptoms. If you have moderate or severe symptoms from HIV, you should not receive MMR. If you are exposed to measles, call your healthcare provider right away. If you get measles, you are at risk of developing severe complications because of your HIV infection.</td>
</tr>
<tr>
<td>Meningococcal ACYW (Meningococcal ACWY)</td>
<td>Yes! Meningococcal ACWY vaccine is recommended for all people age 2 years and older with HIV infection. The first 2 doses are given 8 weeks apart, followed by booster doses every 5 years.</td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td>Maybe. You should consider MenB vaccine if you are age 12 or younger (even if you don’t have a high-risk medical condition). You may need MenB if you have one of several health conditions, for example, if you do not have a functioning spleen.</td>
</tr>
<tr>
<td>Pneumococcal (Pneumovax, PPV23, Prevnar, PCV)</td>
<td>Yes! Adults with HIV infection need to get vaccinated with both types of pneumococcal vaccine – Pneumovax, once in a lifetime, and Prevnar (you may need more than 1 dose, depending on your age and health conditions). If you haven’t received them, talk with your healthcare provider about when to get them. If you are age 65 or older and already had Pneumovax when you were younger than 65, you will need another dose, provided at least 5 years have passed since your last one.</td>
</tr>
<tr>
<td>Tetanus, diphtheria, whooping cough (pertussis) (Tdap, Td)</td>
<td>Yes! Adults who have not received a dose of Tdap during their lifetime need to get Tdap (the adult whooping cough vaccine). And, all women need to get a dose during each pregnancy. After that, you need a Td booster dose every 10 years. Consult your healthcare provider if you haven’t had at least 1 tetanus and diphtheria toxoid-containing shot sometime in your life or if you have a deep or dirty wound.</td>
</tr>
<tr>
<td>Varicella (Chickpea)</td>
<td>Maybe. If you have no HIV symptoms or only mild symptoms, and have never had chickenpox, never vaccinated, or were vaccinated but only received 1 dose, talk to your healthcare provider to find out if you need this vaccine.</td>
</tr>
<tr>
<td>Zoster (shingles)</td>
<td>Maybe.* If you are age 60 or older and have no symptoms of HIV, you should get a 1-time dose of this vaccine now.</td>
</tr>
</tbody>
</table>

---

*Consult your healthcare provider to determine your level of risk for infection and your need for this vaccine.

**Best Resource – Immunization Action Coalition**

Additional Resources

• 2013 IDSA Clinical Practice Guideline for Vaccination of the Immunocompromised Host:

• Centers for Disease Control and Prevention:
  • [https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/hiv.html](https://www.cdc.gov/vaccines/adults/rec-vac/health-conditions/hiv.html)

• CDC’s 2015 Sexually Transmitted Diseases Treatment Guidelines:

• HIV/AIDS Treatment Guidelines:
  • [https://aidsinfo.nih.gov/guidelines](https://aidsinfo.nih.gov/guidelines)
Thank You!

Lindsey VanderBusch, Gordana Cokrlic, Mary Woinarowicz, Andy Noble, ND RW sites, and local public health units
Questions?