Immunization Update

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Disclosure

- I have no financial conflicts of interest to disclose.

FDA vs. ACIP

- I will discuss the following off-label recommendations:
  - Tdap for pregnant women
  - HepA vaccine for infants 6-11 months
  - MMR vaccine for infants 6-11 months (possibly)
- These are published ACIP recommendations.

Objectives

- Describe recent changes to the pediatric, adolescent and adult immunization schedules.
- Provide information about ongoing and relevant vaccine-preventable outbreaks.
- Discuss current issues and challenges related to vaccination

National Infant Immunization Week

IMMUNIZATION. POWER TO PROTECT.

25 YEARS

April 28th-May 4th

DEPARTMENT OF HEALTH

2019 NIIW Key Messages

Use these key messages to promote the importance of on-time vaccination through age 2 years during National Infant Immunization Week (NIIW).

Vaccinating on time, every time in a baby's first two years of life provides the best protection against dangerous diseases.

- The recommended immunization schedule is set up to provide infants and children with protection from 14 potentially life-threatening diseases early in life when they are most vulnerable.
- Diseases that used to be common in the U.S. are rarely seen now. That's because vaccines work and are safe.
- Even when your baby gets multiple vaccines at a visit, the vaccines do not overload the immune system. Every day, your baby's immune system successfully fights off thousands of antigens – the parts of germs that cause their immune system to respond to diseases. Vaccines contain only a tiny amount of antigens compared to the antigens your baby encounters every day.
- Delaying or skipping vaccines can put children at risk for diseases that can cause serious health problems.
- Check to see what vaccines your child needs by requesting their immunization record from the Minnesota Immunization Information Connection (MIIC). Go to Find My Immunization Record (www.health.state.mn.us/people/immunize/miic/records.html).

Cost should not be a barrier to getting vaccinated.

- The Minnesota Vaccines for Children (MnVFC) and Uninsured and Underinsured Adult Vaccine (UUAV) programs help make sure you and your baby get vaccinated on time by not letting cost get in the way of vaccinating.
- Through the MnVFC program, children 18 years old and younger who are eligible can receive all recommended vaccines for free or little cost.
  - Parents do not have to enroll in the MnVFC program. Clinics participate in the program, so simply ask your clinic about getting free or low-cost vaccines for your child.
  - To see if your child is eligible for the MnVFC program and to find a participating clinic near you, go to Free or Low-Cost Shots for Children (www.health.state.mn.us/people/immunize/basics/howpay.html).
- The UUAV program provides free or low-cost vaccines to eligible adults age 19 and older.
  - This can be a great resource for pregnant women to make sure they receive the vaccines recommended during pregnancy.
  - To see if you are eligible for the UUAV program and to find a participating clinic near you, go to Vaccination Clinics Serving Uninsured and Underinsured Adults (www.health.state.mn.us/people/immunize/basics/counties/index.html).

Immunization Program
PO Box 64975, St. Paul, MN 55164-0975
651-201-5503 | www.health.state.mn.us/immunize

To obtain this information in a different format, call: 651-201-5414. Printed on recycled paper.

February 2019

Talking with Parents about Vaccines for Infants

Doctors, nurses, physician assistants, and office staff all play a key role in establishing and maintaining a practice-wide commitment to communicating effectively about vaccines and maintaining high vaccination rates. You can all answer parents' questions, provide educational materials, and ensure that families make and keep vaccine appointments.

Parents consider their child's health care professionals to be their most trusted source of information when it comes to vaccines. This is true even for parents who are vaccine-hesitant or who have considered delaying one or more vaccines. Therefore, you have a critical role in helping parents choose vaccines for their child.

vaccines as though you presume that parents are ready to accept recommended vaccines for their child during that visit. For example:

Instead of saying *"What do you want to do about shots?,"* **say** *"Your child needs three shots today."*

Instead of saying *"Have you thought about the shots your child needs today?,"* **say** *"Your child needs DTaP, Hib, and Hepatitis B shots today."*

A research study looking at health care professionals' (HCPs) and parents' interactions during vaccine visits showed that parents were more likely to express concerns when providers used language that asked parents about their vaccination plans. In this study, the presumptive approach resulted in significantly more parents accepting vaccines for their child, especially at first-time visits[1]. However, if parents still hesitate or express concerns, move to the next step and give your strong recommendation.

Parents consent with no further questions?

Parents accept your recommendation?

3 Listen to and respond to parent's questions

Parents respond positively to your answers?

Administer recommended vaccine doses

Staying up-to-date

- Subscribe to Got Your Shots e-news: www.health.state.mn.us/vaccines
- Subscribe to IAC Express: www.immunize.org/express
- Obtain the most recent immunization schedules
  - Web – MDH or CDC
  - Subscribe to MMWR: www.cdc.gov/mmwr
  - There's an app for that: "CDC vaccine schedule"

2019 Immunization Schedules

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger

UNITED STATES 2019

Vaccines in the Child and Adolescent Immunization Schedule*

Vaccines	Abbreviations	Trade names
Diphtheria, tetanus, and acellular pertussis vaccine	DTaP	Daptacel Infanrix
Diphtheria, tetanus vaccine	DT	No Trade Name
Haemophilus influenzae type b vaccine	Hib (PRP-T) Hib (PRP-OMP)	ActHIB Hiberix PedvaxHIB
Hepatitis A vaccine	HepA	Havrix Vaqta
Hepatitis B vaccine	HepB	Engerix-B Recombivax HB
Human papillomavirus vaccine	HPV	Gardasil 9
Influenza vaccine (inactivated)	IIV	Multiple
Influenza vaccine (live, attenuated)	LAIV	FluMist
Measles, mumps, and rubella vaccine	MMR	M-M-R II
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-D MenACWY-CRM	Menactra Menveo
Meningococcal serogroup B vaccine	MenB-4C MenB-FHbp	Bexsero Trumenba
Pneumococcal 13-valent conjugate vaccine	PCV13	Prevnar 13
Pneumococcal 23-valent polysaccharide vaccine	PPSV23	Pneumovax
Poliovirus vaccine (inactivated)	IPV	IPOL
Rotavirus vaccine	RV1 RV5	Rotarix RotaTeq
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel Boostrix
Tetanus and diphtheria vaccine	Td	Tenivac Td vaccine
Varicella vaccine	VAR	Varivax
Combination Vaccines *(Use combination vaccines instead of separate injections when appropriate)*		
DTaP, hepatitis B, and inactivated poliovirus vaccine	DTaP-HepB-IPV	Pediarix
DTaP, inactivated poliovirus, and *Haemophilus influenzae* type b vaccine	DTaP-IPV/Hib	Pentacel
DTaP and inactivated poliovirus vaccine	DTaP-IPV	Kinrix Quadracel
Measles, mumps, rubella, and varicella vaccines	MMRV	ProQuad

*Administer recommended vaccines if immunization history is incomplete or unknown. Do not restart or add doses to vaccine series for extended intervals between doses. When a vaccine is not administered at the recommended age, administer at a subsequent visit. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

How to use the child/adolescent immunization schedule

1. Determine recommended vaccine by age **(Table 1)**
2. Determine recommended interval for catch-up vaccination **(Table 2)**
3. Assess need for additional recommended vaccines by medical condition and other indications **(Table 3)**
4. Review vaccine typ frequencie intervals, a considera for specia situation **(Notes)**

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the C for Disease Control and Prevention (www.cdc.gov), American Academy of Pediatrics (www.aap.org), American Academy of Physicians (www.aafp.org), and American College of Obstetri Gynecologists (www.acog.org).

Report

- Suspected cases of reportable vaccine-preventable disease outbreaks to your state or local health department
- Clinically significant adverse events to the Vaccine Adverse Reporting System (VAERS) at www.vaers.hhs.gov or (800-8

Download the CDC Vaccine Schedules App for providers a www.cdc.gov/vaccines/schedules/hcp/schedule-app.htm

Helpful information

- Complete ACIP recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/ind
- Outbreak information (including case identification an response), see Manual for the Surveillance of Vaccine-P Diseases: www.cdc.gov/vaccines/pubs/surv-manual

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Notes — Recommended Adult Immunization Schedule United States, 2019

Haemophilus influenzae type b vaccination

Special situations

- **Anatomical or functional asplenia (including sickle cell disease)**: 1 dose Hib if previously did not receive Hib; if elective splenectomy, 1 dose Hib, preferably at least 14 days before splenectomy
- **Hematopoietic stem cell transplant** (HSCT): 3-dose series Hib 4 weeks apart starting 6–12 months after successful transplant, regardless of Hib vaccination history

Hepatitis A vaccination

Routine vaccination

- **Not at risk but want protection from hepatitis A** (identification of risk factor not required): 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: 4 weeks between doses 1 and 2, 5 months between doses 2 and 3])

Special situations

- **At risk for hepatitis A virus infection**: 2-dose series HepA or 3-dose series HepA-HepB as above
  - **Chronic liver disease**
  - **Clotting factor disorders**
  - **Men who have sex with men**
  - **Injection or non-injection drug use**
  - **Homelessness**
  - **Work with hepatitis A virus** in research laboratory or nonhuman primates with hepatitis A virus infection
  - **Travel in countries with high or intermediate endemic hepatitis A**
  - **Close personal contact with international adoptee** (e.g., household, regular babysitting) in first 60 days after arrival from country with high or intermediate endemic hepatitis A (administer dose 1 as soon as adoption is planned, at least 2 weeks before adoptee's arrival)

Hepatitis B vaccination

Routine vaccination

- **Not at risk but want protection from hepatitis B** (identification of risk factor not required): 2- or 3-dose series HepB (2-dose series Heplisav-B at least 4 weeks apart [2-dose series HepB only applies when 2 doses of Heplisav-B are used at least 4 weeks apart] or 3-dose series Engerix-B or Recombivax HB at 0, 1, 6 months [minimum intervals: 4 weeks between doses 1 and 2, 8 weeks between doses 2 and 3, 16 weeks between doses 1 and 3]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: 4 weeks between doses 1 and 2, 5 months between doses 2 and 3])

Special situations

- **At risk for hepatitis B virus infection**: 2-dose (Heplisav-B) or 3-dose (Engerix-B, Recombivax HB) series HepB, or 3-dose series HepA-HepB as above
  - **Hepatitis C virus infection**
  - **Chronic liver disease** (e.g., cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice upper limit of normal)
  - **HIV infection**
  - **Sexual exposure risk** (e.g., sex partners of hepatitis B surface antigen (HBsAg)-positive persons; sexually active persons not in mutually monogamous relationships, persons seeking evaluation or treatment for a sexually transmitted infection, men who have sex with men)
  - **Current or recent injection drug use**
  - **Percutaneous or mucosal risk for exposure to blood** (e.g., household contacts of HBsAg-positive persons; residents and staff of facilities for developmentally disabled persons; health care and public safety personnel with reasonably anticipated risk for exposure to blood or blood-contaminated body fluids; hemodialysis, peritoneal dialysis, home dialysis, and predialysis patients; persons with diabetes mellitus age younger than 60 years and, at discretion of treating clinician, those age 60 years or older)
  - **Incarcerated persons**
  - **Travel in countries with high or intermediate endemic hepatitis B**

Human papillomavirus vaccination

Routine vaccination

- **Females through age 26 years and males through age 21 years:** 2- or 3-dose series HPV vaccine depending on age at initial vaccination; males age 22 through 26 years may be vaccinated based on individual clinical decision (HPV vaccination routinely recommended at age 11–12 years)
- **Age 15 years or older at initial vaccination**: 3-dose series HPV vaccine at 0, 1–2, 6 months (minimum intervals: 4 weeks between doses 1 and 2, 12 weeks between doses 2 and 3, 5 months between doses 1 and 3; repeat dose if administered too soon)
- **Age 9 through 14 years at initial vaccination and received 1 dose, or 2 doses less than 5 months apart**: 1 dose HPV vaccine
- **Age 9 through 14 years at initial vaccination and received 2 doses at least 5 months apart**: HPV vaccination complete, no additional dose needed
- If completed valid vaccination series with any HPV vaccine, no additional doses needed

Special situations

- **Immunocompromising conditions (including HIV infection) through age 26 years**: 3-dose series HPV vaccine at 0, 1–2, 6 months as above
- **Men who have sex with men and transgender persons through age 26 years**: 2- or 3-dose series HPV vaccine depending on age at initial vaccination as above
- **Pregnancy through age 26 years**: HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant; pregnancy testing not needed before vaccination

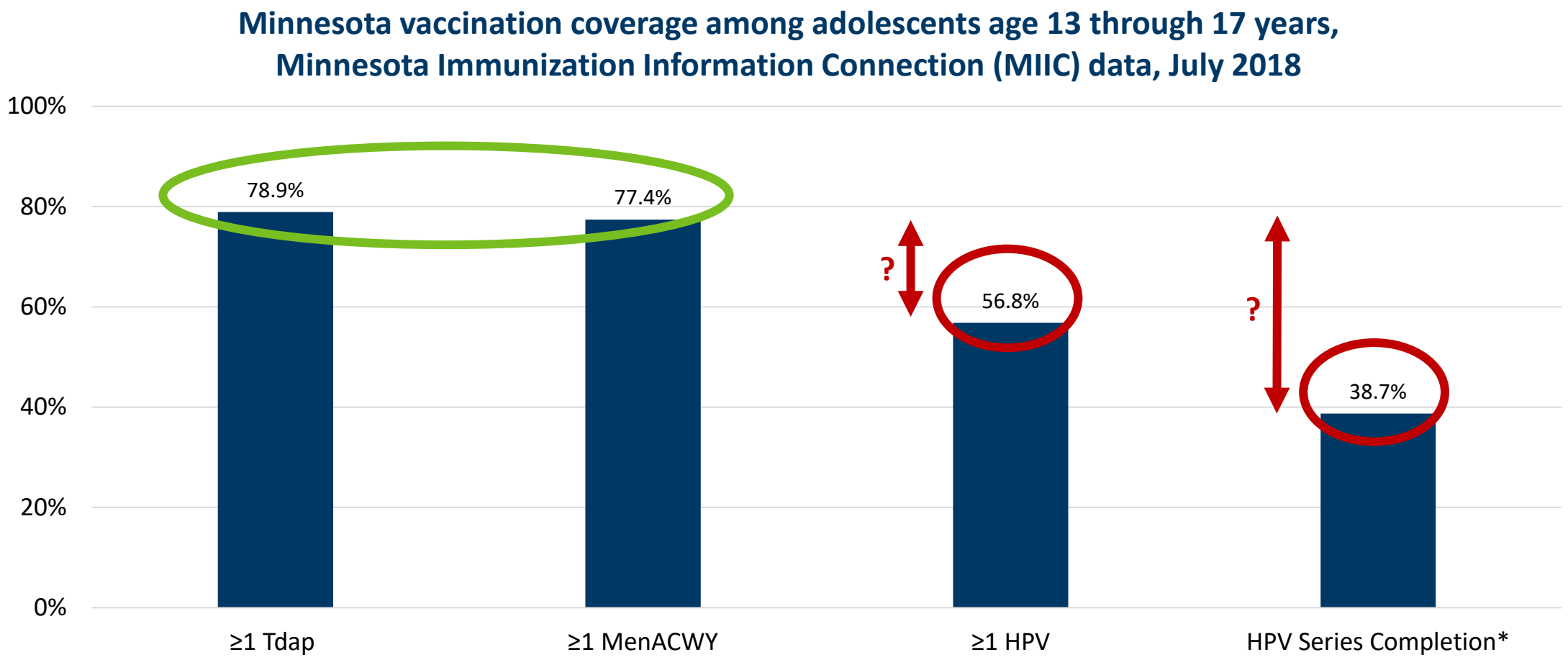
02/12/19

Centers for Disease Control and Prevention | Recommended Adult Immunization Schedule, United States, 2019 | Page 4

HPV Vaccine

A missed opportunity to prevent cancer!

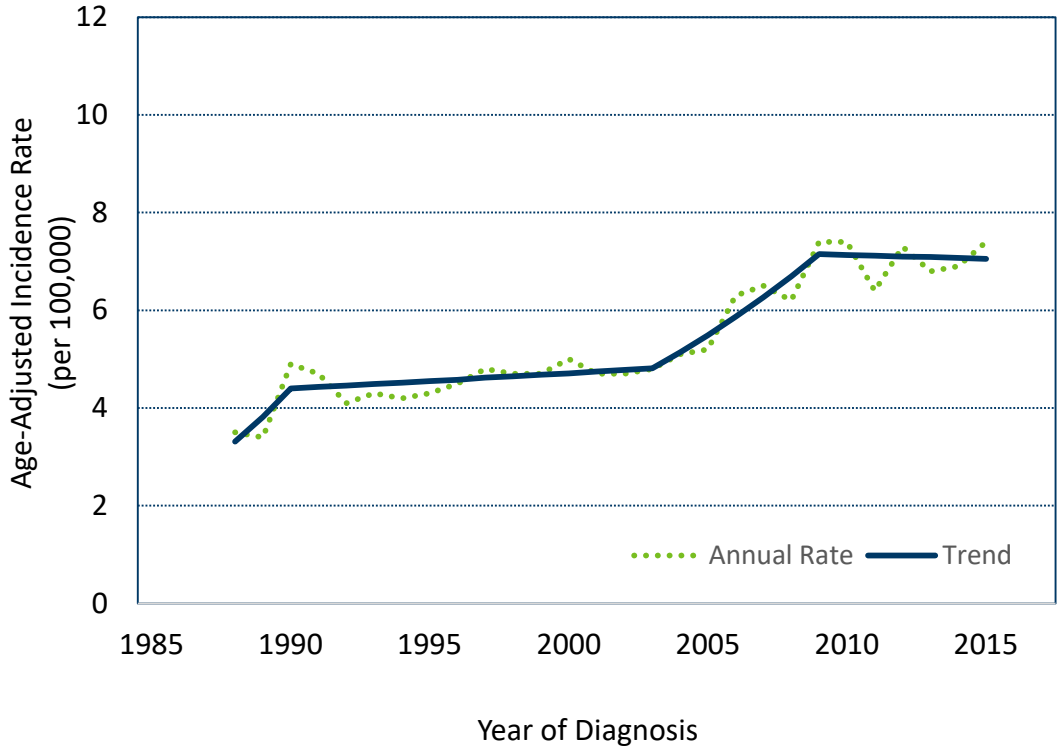
Missing the Opportunity to Prevent Cancer



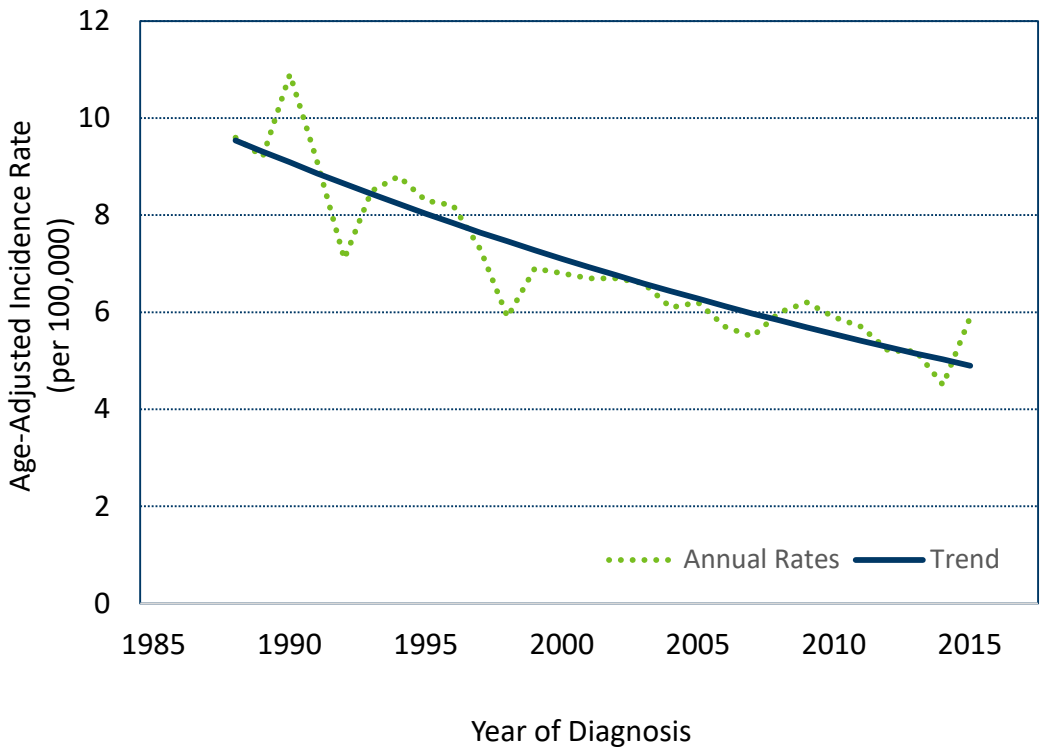
*HPV Series Completion: 3 or more doses of HPV vaccine, or 2 or more doses of HPV vaccine when the first dose was initiated prior to age 15 years and there were at least five months minus 4 days between the first and second doses.

Overall HPV Cancers Are Increasing in Minnesota

Oropharyngeal cancer rates in males doubled between 1988 – 2015



Cervical cancer rates decreased 39% from 1988 – 2015



Many Cancers Could Be Prevented by HPV Vaccination

Minnesota HPV cancer cases per year by cancer site and HPV type, Minnesota Cancer Reporting System (MCRS), 2011 – 2015

	Average number of cancers where HPV is often found (HPV-associated cancers)	Number (%) of cancers probably caused by HPV types that can be prevented by HPV vaccine*
Total	643	470 (73%)
Cancer site		
Oropharynx	283	187 (66%)
Cervix	148	120 (81%)
Anus	86	75 (87%)
Vulva	77	49 (63%)
Penis	29	16 (57%)
Vagina	12	9 (73%)
Rectum	8	7 (87%)

*HPV types 16/18/31/33/45/52/58 are covered in the 9-valent HPV vaccine.

HPV VACCINE:

Long-Lasting Cancer Protection

Vaccination prevents over 90% of cancers caused by HPV

HPV stands for **human papillomavirus**

HPV

It can be passed with **no signs or symptoms.**

HPV is so common that **nearly everyone gets it at some point.**

It dramatically **increases the risk of serious cancer,** in both men and women.[1]

In Minnesota

The HPV vaccination rate is just 39%

44% of **girls** completed their HPV vaccination **series in 2018.**

36% of **boys** completed their HPV vaccination **series in 2018.**

Most Common Cancers Caused by HPV

Cervical cancer occured in **148** women per year.

Throat cancer occured in **283** people per year.

HPV Vaccine for mid-Adults

- FDA approved Gardasil 9 for persons 27-45 years of age
  - This is not an ACIP recommendation!
- ACIP is considering:
  - Cost effectiveness data
  - Individual-based recommendation (Category B)
  - Harmonizing catch-up ages
  - Possible vote in June

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Tetanus, diphtheria, pertussis

Pertussis Activity

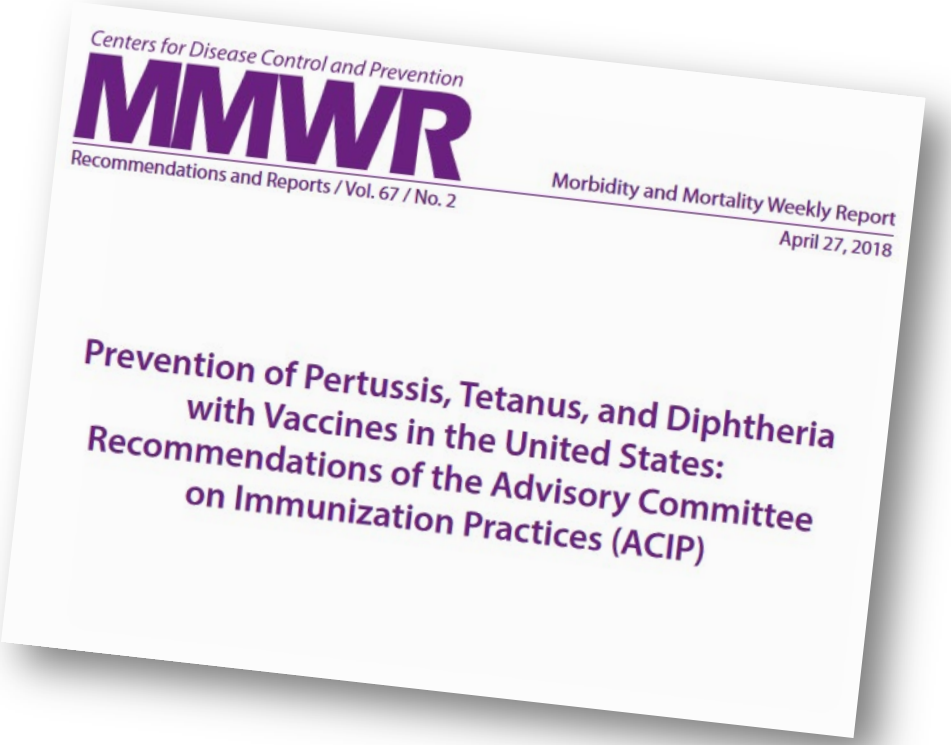
Maternal Tdap

Administer 1 dose of Tdap **during each** pregnancy, preferably in the early part of gestational weeks 27-36.

- Infants are at the highest risk for hospitalization and death from pertussis
- Routine vaccination begins at 2 mos, but the infant is not protected until dose 3, which is scheduled at 6 months
- Maternal antibodies against pertussis are transferred to the infant
- Recommendation made in 2012, but MN coverage hovers around 50%

Diphtheria, Tetanus, Pertussis Vaccination Recommendations from ACIP

- Published April 27, 2018
- Compiled multiple recommendations
- Clarified adolescent vaccination
  - Give Tdap at 11-12 years regardless of previous receipt of Tdap


Centers for Disease Control and Prevention
MMWR
Recommendations and Reports / Vol. 67 / No. 2
Morbidity and Mortality Weekly Report
April 27, 2018

Prevention of Pertussis, Tetanus, and Diphtheria with Vaccines in the United States: Recommendations of the Advisory Committee on Immunization Practices (ACIP)

https://www.cdc.gov/mmwr/volumes/67/rr/pdfs/rr6702a1-H.pdf

Updated DTaP/Tdap recommendations

- Updated precautions to pertussis-containing vaccines
  - The following are no longer precautions:
    - Collapse or shock-like state after receiving DTP/DTaP
    - Seizure ≤3 days after receiving DTP/DTaP
    - Persistent, inconsolable crying lasting ≥3 hours within 48 hours after DTP/DTaP
  - Reflect VEARS data on acellular vaccines
  - Remaining Precautions:
    - Progressive or unstable neurologic disorder; defer DTaP until neurologic status clarified and stabilized
    - Guillain-Barré syndrome <6 weeks after previous dose of tetanus toxoid–containing vaccine
    - History of Arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid–containing vaccines; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid–containing vaccine
    - Moderate or severe acute illness with or without fever

Adacel Licensing

Sanofi's Adacel Tdap vaccine was recently licensed for a repeat dose

Current ACIP Recommendations for Tdap in adolescents and adults in the United States remain the same

- Single dose of Tdap at 11-12 years
- Booster dose of Td every 10 years
- Single Tdap can replace decennial Td booster dose
- Tdap during every pregnancy (off-label recommendation)

Tdap and repeat doses

Previous Work Group and ACIP discussions (2013-2014):

- Increase in pertussis expected to continue
- First Tdap vaccination has high initial VE, but substantial waning of protection within 2-4 years
- Second Tdap is safe and immunogenic
- Reduction of disease burden would likely be limited with second Tdap (evaluated at 16 and 21 years of age)
- Given cost of Tdap compared with Td, specific revaccination strategies were not likely to be cost-effective

- Conclusion: Data did not support recommendation for second Tdap

Future Questions for ACIP

- Should the current recommendation that non-pregnant adults receive a single lifetime dose of Tdap and Td boosters every 10 years be changed to allow any Td-containing vaccine (Tdap or Td) to be used for the decennial Td booster in adults?

- Should any Td-containing vaccine (Tdap or Td) be allowed for use for tetanus prophylaxis in the setting of wound management?

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Herpes Zoster (HZ)

Shingrix Basics

- Inactivated, adjuvanted recombinant zoster vaccine recommended for immunocompetent adults 50 years and older
  - Shingrix is given as a 2-dose series, 2 to 6 months apart (0, 2-6 months).
  - Shingrix is preferentially recommended over Zostavax for its higher efficacy and longer duration of protection.
  - People who previously received Zostavax are recommended to get Shingrix.

Increased demand, decreased supply

- Shingrix is popular
  - Many more people are recommended to receive it, and two doses are required for protection
- Allocations continue in 2019
- Prioritize completing 2-dose series
- Have system in place to recall patients for second dose 2-6 months following 1st dose

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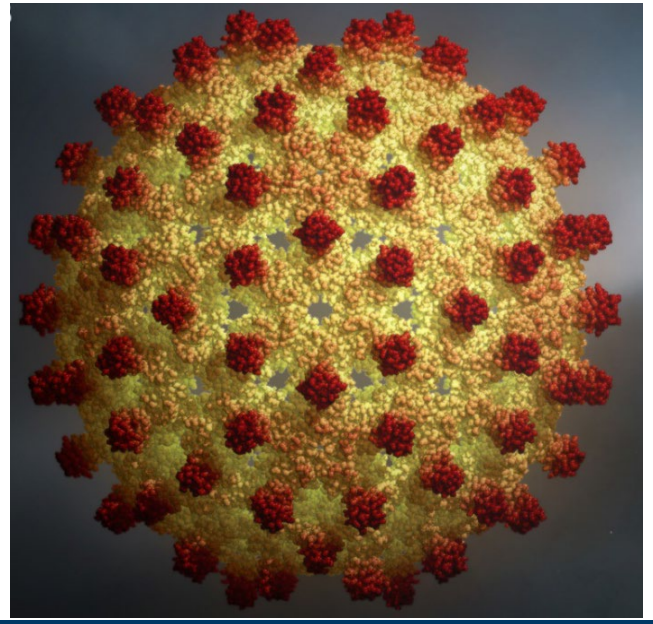


Hepatitis Vaccination

HBV, picture source:
http://cellulenumeriealtro.blogspot.com/2015/10/storia-del-vaccino-contro-lepatite-b.html

HAV, picture source:
omicsonline.org

National Outbreaks of Hepatitis A

- 18 states involved in the national outbreaks
  - Over 15,900 cases
  - Over 8,800 hospitalizations
  - 157 deaths
  - Only two states have declared their outbreak over – California & Utah
- Risk factors similar between states
- Unusual risk groups for hepatitis A
- **Extremely** complicated to address

National Outbreaks of Hepatitis A

- The following groups are at highest risk for acquiring hepatitis A or having serious complications from illness with hepatitis A. These are priority groups for vaccination for outbreak prevention:
  - **People who use drugs (injection or non-injection)**
  - **People experiencing unstable housing or homelessness**
  - **Men who have sex with men (MSM)**
  - **People who are, or were recently, incarcerated**
  - **People with chronic liver disease, including cirrhosis, hepatitis B, or hepatitis C**
- One dose of single-antigen hepatitis A vaccine provides up to 95% seroprotection in healthy individuals for up to 11 years.

Hepatitis A Recommendation Update

October 2018, ACIP: voted to recommend homelessness as a risk indication for hepatitis A vaccination

Routine Vaccination:

- Children 12-23 months
- Increased risk for HepA: Chronic liver disease, clotting factor disorders, MSM, recreational drug use, travel to endemic areas, occupational
- Anyone who wants protection against Hep A

Hep A Vaccination for Infants Traveling Internationally

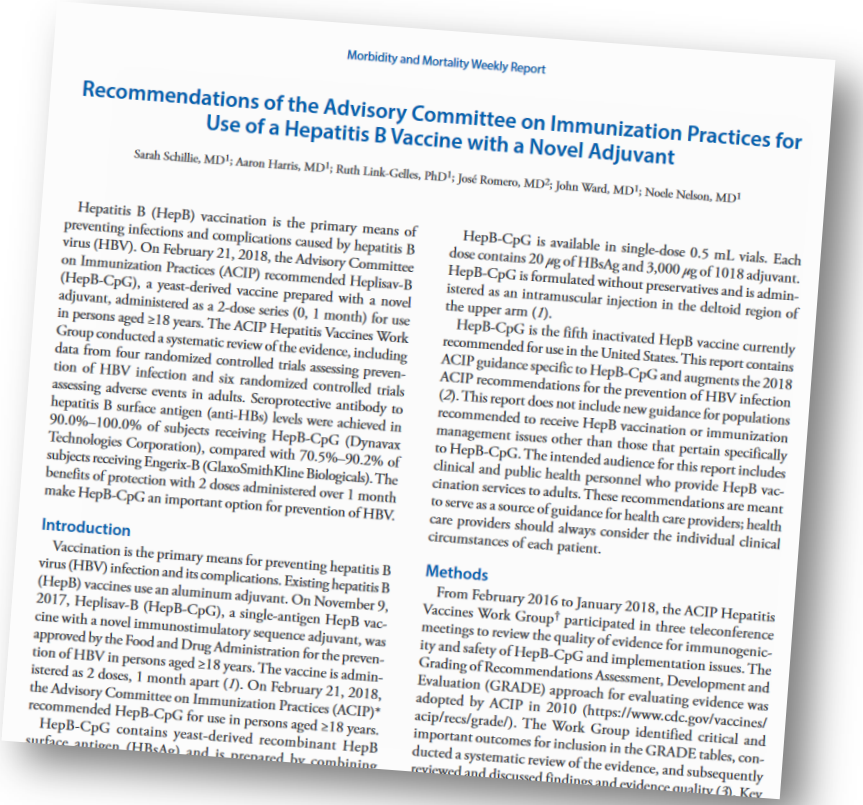
- Hep A vaccine should be administered to infants aged 6-11 months when protection is recommended
  - Previously IG was recommended
  - MMR vaccine recommended for all infants 6-11 months traveling internationally
  - IG and MMR cannot be administered at the same time
- The travel-related dose for infants aged 6-11 months should not be counted toward the routine 2 dose series

Hepatitis A PEP Update

- Post-exposure prophylaxis (within 2 weeks of exposure) among unvaccinated persons
  - Hepatitis A to immunocompetent persons 1 year and older
  - Persons 40 years and older may receive immune globulin (IG) based on clinician's risk assessment
  - Immunocompromised persons and those with chronic liver disease should received both hepatitis A and IG

New product: Heplisav-B

- Option for persons 18 years and older
  - Higher serologic response among persons 40-70 years, Type II diabetes and chronic kidney disease compared to Engerix-B
- Give IM
- 2-dose series: 0, 1 month
- May be interchanged with other hepB products, see guidance
- Safety: mild and severe adverse effects similar
  - Cardiac events not statistically different
  - Data continues to accumulate



Morbidity and Mortality Weekly Report

Recommendations of the Advisory Committee on Immunization Practices for Use of a Hepatitis B Vaccine with a Novel Adjuvant

Sarah Schillie, MD[1]; Aaron Harris, MD[1]; Ruth Link-Gelles, PhD[1]; José Romero, MD[2]; John Ward, MD[1]; Noele Nelson, MD[1]

Hepatitis B (HepB) vaccination is the primary means of preventing infections and complications caused by hepatitis B virus (HBV). On February 21, 2018, the Advisory Committee on Immunization Practices (ACIP) recommended Heplisav-B (HepB-CpG), a yeast-derived vaccine prepared with a novel adjuvant, administered as a 2-dose series (0, 1 month) for use in persons aged ≥18 years. The ACIP Hepatitis Vaccines Work Group conducted a systematic review of the evidence, including data from four randomized controlled trials assessing prevention of HBV infection and six randomized controlled trials assessing adverse events in adults. Seroprotective antibody to hepatitis B surface antigen (anti-HBs) levels were achieved in 90.0%–100.0% of subjects receiving HepB-CpG (Dynavax Technologies Corporation), compared with 70.5%–90.2% of subjects receiving Engerix-B (GlaxoSmithKline Biologicals). The benefits of protection with 2 doses administered over 1 month make HepB-CpG an important option for prevention of HBV.

Introduction

Vaccination is the primary means for preventing hepatitis B virus (HBV) infection and its complications. Existing hepatitis B (HepB) vaccines use an aluminum adjuvant. On November 9, 2017, Heplisav-B (HepB-CpG), a single-antigen HepB vaccine with a novel immunostimulatory sequence adjuvant, was approved by the Food and Drug Administration for the prevention of HBV in persons aged ≥18 years. The vaccine is administered as 2 doses, 1 month apart (*1*). On February 21, 2018, the Advisory Committee on Immunization Practices (ACIP)* recommended HepB-CpG for use in persons aged ≥18 years.

HepB-CpG contains yeast-derived recombinant HepB surface antigen (HBsAg) and is prepared by combining

HepB-CpG is available in single-dose 0.5 mL vials. Each dose contains 20 μg of HBsAg and 3,000 μg of 1018 adjuvant. HepB-CpG is formulated without preservatives and is administered as an intramuscular injection in the deltoid region of the upper arm (*1*).

HepB-CpG is the fifth inactivated HepB vaccine currently recommended for use in the United States. This report contains ACIP guidance specific to HepB-CpG and augments the 2018 ACIP recommendations for the prevention of HBV infection (*2*). This report does not include new guidance for populations recommended to receive HepB vaccination or immunization management issues other than those that pertain specifically to HepB-CpG. The intended audience for this report includes clinical and public health personnel who provide HepB vaccination services to adults. These recommendations are meant to serve as a source of guidance for health care providers; health care providers should always consider the individual clinical circumstances of each patient.

Methods

From February 2016 to January 2018, the ACIP Hepatitis Vaccines Work Group† participated in three teleconference meetings to review the quality of evidence for immunogenicity and safety of HepB-CpG and implementation issues. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach for evaluating evidence was adopted by ACIP in 2010 (https://www.cdc.gov/vaccines/acip/recs/grade/). The Work Group identified critical and important outcomes for inclusion in the GRADE tables, conducted a systematic review of the evidence, and subsequently reviewed and discussed findings and evidence quality (*3*). Key

Influenza

Influenza Vaccine 2019-2020

- 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: B/Phuket/3073/2013-like (Yamagata lineage) virus

- FluZone 0.5 ml now approved down to 6 months
  - Joins FluLaval and Fluarix
- AAP no longer expresses a preference for IIV
- More to come in June

https://youtu.be/mv9LILA8s5M

Measles

Update on National Outbreaks

- As of April 19: 626 cases in 22 states
  - Linked to mostly unvaccinated travelers who brought measles back from other countries
  - Spread occurs in communities that have pockets of unvaccinated people

Action Steps

- Keep vaccinating
  - Routine and Catch-up
- Re-examine “in-progress” children
  - Vaccinate or provide legal exemption forms
  - Inform parents of exclusion measures taken during an outbreak
- Educate on the severity of measles
  - Over 20 children were hospitalized during the 2017 outbreak

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Thank you.

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