



Adolescent Immunization Update

Coulee Region Immunization Coalition's
2019 Immunization Symposium

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Disclosures

None



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Objectives

- Review current adolescent immunization rates
- Discuss current adolescent HPV vaccination recommendations and schedules
- Differentiate purpose and schedule for meningococcal B and ACWY vaccines
- Describe strategies to improve HPV immunization rates for Pediatric and Adolescent patients



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Where are we at in 2018?

- **Tdap** : WI 87% National 89%
- **HPV (UTD)**: WI 56% National 51%
- **Meningococcal AWYC**: WI 86% National 87%
- **Meningococcal B**: National 17%



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Good News!

- HPV completion rate has increased:
57.7% from 50.7% in 2016
- Male HPV vaccination rate is improving:
50.7% from 37.8% in 2016
- Decrease in precancerous lesions caused by HPV in young women
- MenAWYC completion rate nearing Tdap



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Where are we at?

TeenVaxView Interactive!

<https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/data-reports/index.html>



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HPV Recommendations

Routine and catch-up vaccination

- Routinely recommended for all adolescents **age 11–12 years (can start at age 9 years)** and through age 18 years if not previously adequately vaccinated
- 2- or 3-dose series depending on age at initial vaccination:
 - **Age 9 through 14 years at initial vaccination:** 2-dose series at 0, 6–12 months
 - **Age 15 years or older at initial vaccination:** 3-dose series at 0, 1–2 months, 6 months



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HPV Recommendations

Special situations

- **Immunocompromising conditions, including HIV infection:** 3-dose series as above
- **History of sexual abuse or assault:** Start at age 9 years
- **Pregnancy:** HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant
- If completed valid vaccination series with any HPV vaccine, no additional doses needed



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Meningococcal Disease

Bacterial infection caused by *Neisseria meningococcus* (also known as meningococcus)

- often be severe and deadly
- 98% of US cases of are sporadic; outbreaks continue to occur

Colonizes nasopharynx

- Rates of nasopharyngeal carriage are highest in adolescents and young adults
- spread through the exchange of respiratory and throat secretions like spit (e.g. close living quarters, kissing)

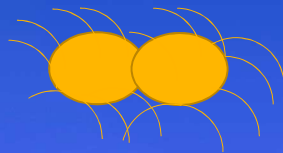
Adolescents are likely the main source of transmission of the organism to persons in other age groups



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Meningococcus

- Gram negative diplococcus
- Different strains: 12 serogroups based on its capsular polysaccharide (outer layer of organism)
- Serogroups A, B, C, W, X, and Y are the primary causes of meningococcal disease worldwide



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Meningococcal Disease

Meningitis (50.2%)--Infection of the lining of the brain and spinal cord

Bacteremia (37.5%)—Infection of bloodstream

Pneumonia (9.2%)—Infection of lung

- 350 total cases (incidence: 0.11 cases per 100,000 persons) in 2017
- 10-15% fatality rate
- 20% of survivors have permanent disabilities (loss of limb, hearing loss or brain damage)

ALERT: NEXT SLIDES CONTAINS GRAPHIC IMAGES



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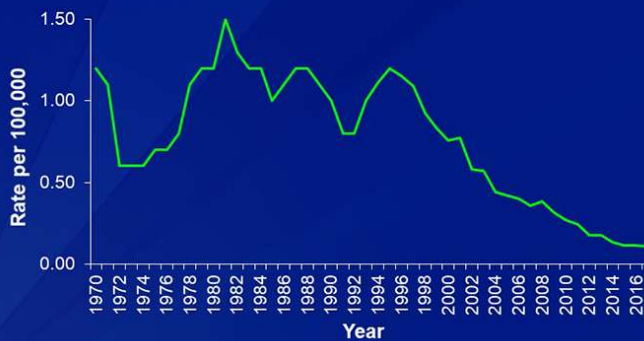
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Meningococcal Disease Incidence, United States, 1970-2017

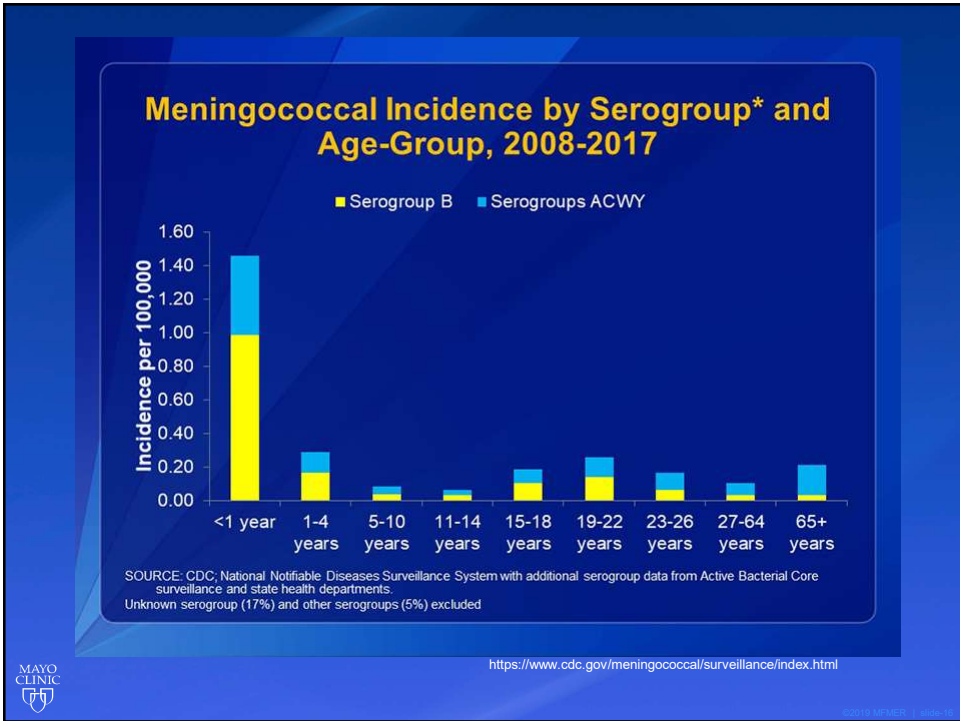
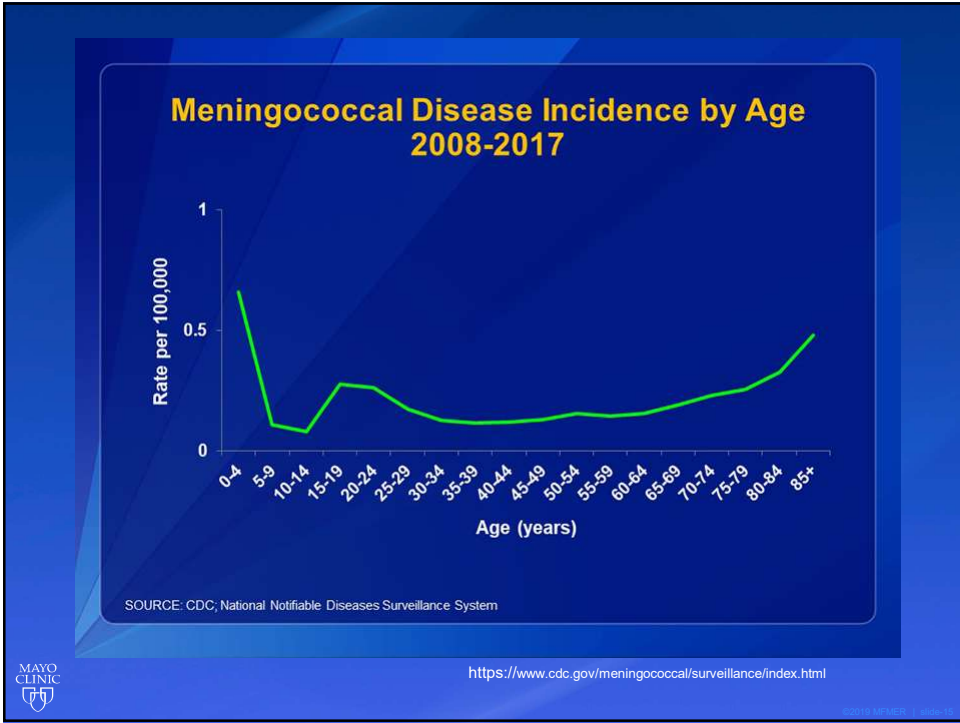


SOURCE: CDC; National Notifiable Diseases Surveillance System



<https://www.cdc.gov/meningococcal/surveillance/index.html>

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Timeline

Meningococcal conjugate vaccine ACIP recommendations, 2005 — 2012

- 2005:** Licensure , first recommendation for routine vaccination of adolescents with MenACWY-D.
- 2006:** Due to limited supply, target recommendation for children entering high school or college and persons aged 11–55 years at increased risk for disease.
- 2007:** After supply sufficient, ACIP recommended vaccination of all adolescents aged 11–18 years as well as children aged 2–10 years at increased risk for disease.
- 2009:** ACIP recommended booster dose for persons who remain at increased risk for meningococcal disease, administered every 5 years except for children who received their previous dose prior to their seventh birthday; these children should receive a booster dose 3 years after their previous dose.
- 2010:** FDA licensed second vaccine product, MenACWY-CRM. ACIP added a booster dose at age 16 years and recommended a 2-dose primary series for all persons with asplenia, persistent complement component deficiency, and for persons with human immunodeficiency virus infection.
- 2011:** ACIP recommended a 2-dose primary series for children aged 9–23 months at increased risk for meningococcal disease.
- 2012:** ACIP recommended a 4-dose primary series of Hib-MenCY-TT for children aged 2–18 months at increased risk for meningococcal disease.



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Two Types of Meningococcal Vaccines

Meningococcal Serogroup ACWY Vaccines (MenACWY-Menactra, Menveo)

- Available since 2005
- ACIP routine recommendations
 - Routinely recommended at age 11-12
 - Booster dose recommended at age 16

Meningococcal Serogroup B Vaccines (MenB-Bexsero, Trumenba)

- Available since late 2014
- ACIP routine recommendations
- Routinely recommended for people at increased risk age >10 years
- Later in 2015 –“May be given” to healthy persons 16 to 23 years of age, preferred at 16-18
- Different schedules

MMWR2013;62(RR-2);15; MMWR2015;64:608-1236



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MenACWY Vaccination

Routine vaccination

- 2-dose series: 11–12 years, 16 years
- Catch-up vaccination
 - Age 13–15 years: 1 dose, booster 16–18 years (min interval: 8 wks)
 - Age 16–18 years: 1 dose



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Special Circumstances MenACWY

2–55 yrs with high-risk conditions and not vaccinated previously

- Persistent complement deficiencies
- Functional or anatomic asplenia
- HIV +, if another indication for vaccination exists

2 doses of MenACWY, 8–12 weeks apart

- First-year college students aged ≤ 21 years living in residential housing
- Travel to or live where meningococcal disease is hyperendemic or epidemic
- At risk during a community outbreak attributable to a vaccine serogroup
- Microbiologists routinely exposed to isolates of *Neisseria meningitidis*

1 dose of MenACWY

Source: Adapted from American Academy of Pediatrics. Meningococcal infections. In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. Red book: 2012 report of the Committee on Infectious Diseases. 29th ed. Elk Grove, IL: American Academy of Pediatrics; 2012: 500–9



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Two Vaccines

Reasons for different recommendations are based on vaccine efficacy and risk factors for different ages

Administration during outbreaks is effective



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How to Increase Vaccination Rates for Teens

- **“We Highly Recommend”—74% vs 46%**
- **Presumptive approach**
- Every opportunity
- Recall and remind
- Nurse only visits and protocols/standing orders
- Use immunization registry (review at each visit)
- Use recommended vaccine schedule
- Prioritize vaccine education for families
- Establish rapport with teens
- Value care for teens



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Thank you!

- You have the power to ensure your patients are protected from serious diseases like measles, cancers caused by HPV, and seasonal flu.
- Be a champion for vaccination in your practice!
- Share what you have learned with others—patients, but also your family and friends.
- Your voice can save a life, use it!



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Resources

- <https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/data-reports/index.html>
- <https://www.cdc.gov/vaccines/vpd/hpv/hcp/resources.html>
- <https://www.cdc.gov/vaccines/schedules/downloads/teen/parent-version-schedule-7-18yrs-bw.pdf>
- <https://www.cdc.gov/vaccines/schedules/easy-to-read/adolescent-shell-easyread.html>
- [meningococcal MMWR publications](#)
- <https://www.immunize.org/catg.d/s8005.pdf>



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