

MenACWY YOU'RE NOT DONE
IF YOU GIVE JUST ONE
GIVE 2 DOSES to Strengthen Protection

Meningococcal Disease Prevention Strengthening Protection in Adolescents



Courtesy of CDC/James Gathany

MKT30019-2R Brought to you as a public health service by the
Immunization Action Coalition and Sanofi Pasteur Inc.

May 2018 • Item #S8055

Presentation Outline

- I. Meningococcal Disease:
Overview of a Rare but Potentially Deadly Infection
- II. Helping to Protect Through Timely and Complete
Immunization: 2 Doses of MenACWY^a
- III. Getting Adolescents Vaccinated:
Much Improvement Needed
- IV. Call to Action:
What *You* Can Do to Help Protect Adolescents
- V. Helpful Resources

^a MenACWY (meningococcal conjugate vaccine quadrivalent) helps protect against
meningococcal disease resulting from infection with serogroup A, C, W, or Y.

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Meningococcal Disease: Overview of a Rare but Potentially Deadly Infection

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Meningococcal Disease in the United States

- A bacterial infection
 - *Neisseria meningitidis*
- An unpredictable disease
 - 98% of cases are sporadic; fewer than 2% are related to outbreaks¹
 - Typically occurs among previously healthy children and adolescents²
- Approximately 2100-3400 cases occurred annually in the 1990s³
 - Approximately 370-1000 per year during 2009-2016^{4,5}



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References: 1. Centers for Disease Control and Prevention (CDC). *Epidemiology and Prevention of Vaccine-Preventable Diseases. (The Pink Book)*. 2015:231-246. 2. CDC. *MMWR*. 2013;62(RR-2):1-28. 3. CDC. *MMWR*. 2014;61(53):1-121. 4. CDC. *MMWR*. 2015;63(52):ND-719-ND-732. 5. www.cdc.gov/meningococcal/downloads/NCIRD-EMS-Report.pdf.

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Outcomes Can Be Severe, Even with Treatment

- Serious outcomes include meningitis (most common clinical presentation) and meningococemia (bloodstream infection)¹
- Death rate of 10%-15%, even with antibiotic therapy¹
 - Death rate even higher (up to 40%) for patients who develop meningococemia¹
- Up to 20% of people who survive meningococcal disease suffer lifelong disability²
 - Amputation of arms or legs, hearing loss, brain damage



Courtesy of National Meningitis Association

References: 1. CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases. (The Pink Book)*. 2015:231-246. 2. CDC. *MMWR*. 2013;62(RR-2):1-28.

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Time Is of the Essence

- Early symptoms are nonspecific
 - Fever, headache, nausea, vomiting, loss of appetite
 - Mimic symptoms of common viral illnesses
- Characteristic symptoms occur later
 - Hemorrhagic rash, neck stiffness, photophobia
 - Typically develop approximately 12-15 hours after symptoms begin¹
- Rapid progression
 - Death may occur within 24 hours of symptom onset^{1,2}



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References: 1. Thompson MJ, et al. *Lancet*. 2006;367(9508):397-403. 2. World Health Organization. <http://www.who.int/mediacentre/factsheets/fs141/en>. Accessed April 4, 2018.

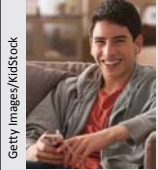
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Where the Burden of Disease Falls¹



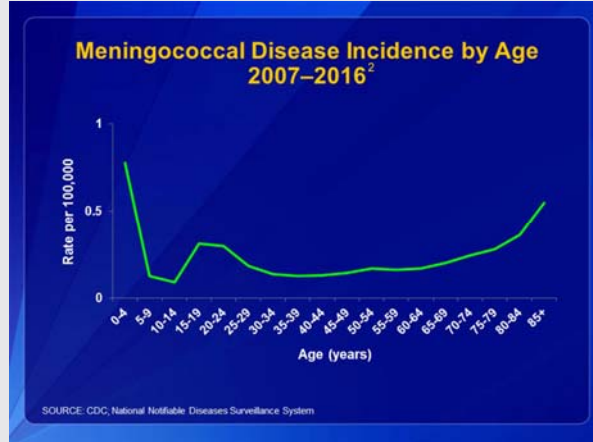
<1 year of age



16 through 21 years of age



≥65 years of age



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Reference: 1. CDC. *MMWR*. 2013;62(RR-2):1-28. 2. CDC. www.cdc.gov/meningococcal/images/meningococcal-graph-lg.jpg. Accessed April 4, 2018.



Modes of Transmission Help Explain Vulnerability of Adolescents and Young Adults

- Spread through respiratory and throat secretions¹
 - Coughing, sneezing
 - Kissing
 - Sharing eating utensils, water bottles, etc.
- Crowded settings facilitate transmission
 - College dormitory²
 - Crowded household²
 - Military barracks
 - Nightclubs, bars



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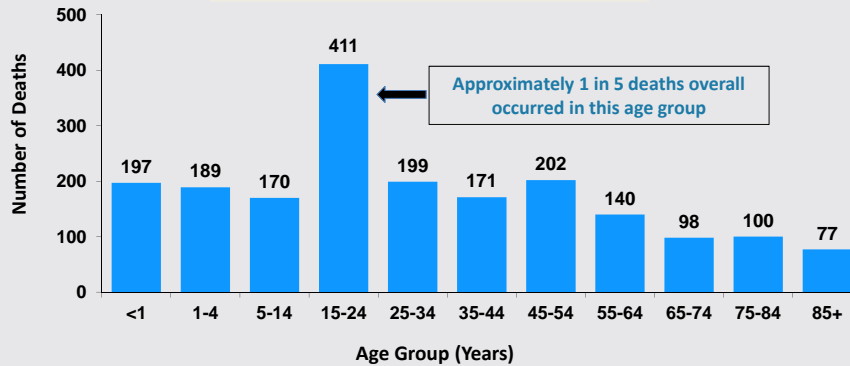
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References: 1. World Health Organization. <http://www.who.int/mediacentre/factsheets/fs141/en>. Accessed April 4, 2018. 2. Immunization Action Coalition. <http://www.immunize.org/catg.d/p4210.pdf>. Accessed April 4, 2018.



Age-Specific Fatalities from Meningococcal Disease¹⁻¹⁶

United States, 1999-2014



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Sources for References 1-16: Deaths: Final data as reported in *National Vital Statistics Reports* for 1999 through 2014.



**Helping to Protect Through
Timely and Complete
Immunization: 2 Doses of
MenACWY**

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Meningococcal Vaccines in the US Recommended for Use in Adolescents and Young Adults

	Meningococcal conjugate (MenACWY)	Meningococcal B (MenB)
Year first licensed	2005	2014
Serogroup(s)	A, C, W, Y	B
Recommendations	Recommended for routine use in adolescents	Recommended, based on individual clinical decision making, for adolescents and young adults 16–23 years of age

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ACIP Recommendations for Routine MenACWY Vaccination¹

- First dose of MenACWY at **11 or 12** years of age
 - Recommended since 2005 by CDC’s Advisory Committee on Immunization Practices (ACIP)
- A second dose at **16** years of age
 - Recommended since 2010 by ACIP



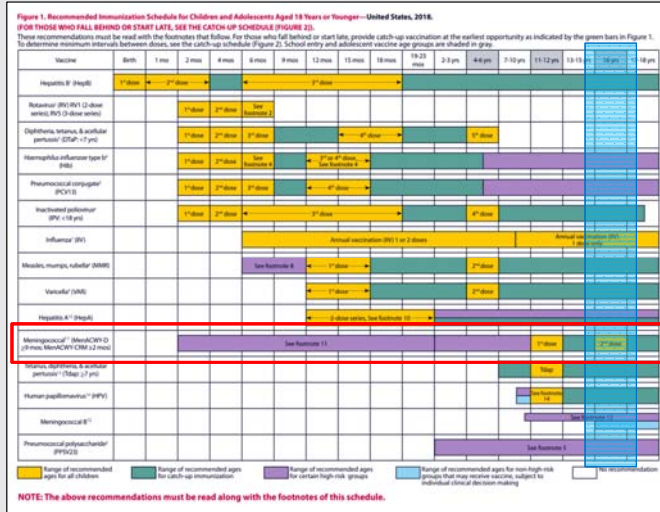
Courtesy of CDC/James Gathany

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Reference: 1. CDC. *MMWR*. 2013;62(RR-2):1-28.



The 16-Year-Old “Platform”



Reference: *MMWR* February 10, 2017;66(5):134–135.

A 16-year-old column was added to the child and adolescent schedule in 2017 to highlight the importance of a visit at this age for MenACWY#2 and other needed vaccines



Why Boost at 16 Years of Age?

- Antibody persistence studies indicate that protective levels of circulating antibody decline 3 to 5 years after a single MenACWY dose¹
- Vaccine effectiveness case–control study suggests that many adolescents are not protected 5 years after vaccination^{1,2}

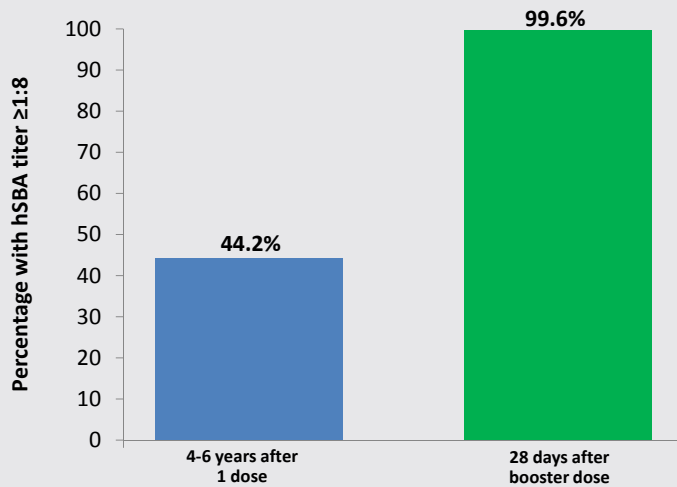
“[A] single dose of meningococcal conjugate vaccine administered at age 11 or 12 years is unlikely to protect most adolescents through the period of increased risk at ages 16 through 21 years”—ACIP¹

References: 1. CDC. *MMWR*. 2013;62(RR-2):1–28. 2. Cohn AC et al. *Pediatrics* 2017;139(2):e20162193.

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Waning Antibody Protection in Serogroup C: The Need for Boosting



hSBA = Serum bactericidal assay using human complement.

Reference: Robertson C, et al. Vaccine 2016;34:5273–5278

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Getting Adolescents Vaccinated: Much Improvement Needed

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Missed Vaccination Opportunities in Adolescents Are Common¹

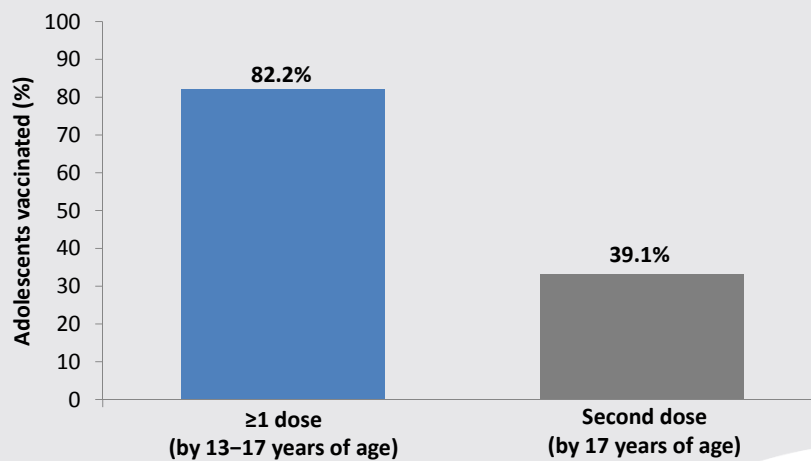
Reason for visit	Percent of age-eligible patients who did NOT receive MenACWY dose 1 during visit ^a
Preventive care (n=1678)	57% (n=954)
Vaccine-only (n=527)	86% (n=453)
Non-preventive care (n=2944)	96% (n=2821)

^aData based on 9180 health care visits made by 1628 adolescents 11–18 years of age to a university-based pediatric practice in Seattle from November 2006–June 2011.

17 Reference: 1. Wong CA, et al. *J Adolesc Health*. 2013;53(4):492-497.



MenACWY Vaccination Coverage Among Adolescents—US, 2016¹



18 Reference: 1. CDC. *MMWR*. 2017;66(33):874-882.



Putting the Numbers Together

Estimated US population of adolescents 13–17 years of age in 2016: **21 million¹**
Pool of potentially unprotected adolescents (no MenACWY primary dose): **3.7 million**

Estimated US population of 17-year-olds in 2016: **4.2 million¹**
Pool of potentially under-protected 17-year-olds (no MenACWY booster dose): **2.6 million**



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Getty Images/Fluse

Reference: 1. US Census Bureau. <http://factfinder.census.gov>. Accessed February 19, 2018.

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**Call to Action:
What You Can Do to Help
Protect Adolescents**

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Strongly Recommend Meningococcal Immunization

- A health care provider's recommendation to vaccinate is a powerful motivator for patients to get immunized¹
- Reinforce your recommendation with an environment that is:
 - Enthusiastically pro-vaccine
 - Committed to fully vaccinating ALL eligible adolescent patients, *regardless of whether they are college bound*
- Provide training, promote leadership
 - Educate staff on meningococcal disease
 - Keep them up-to-date on all ACIP vaccine recommendations
 - Make sure they are fully immunized themselves with the vaccinations they need
 - Consider designating a vaccine champion or team of champions

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Reference: 1. CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. (The Pink Book). 2015:33-46.



Focus on Key Points When Speaking with Patients

- ✓ Meningococcal disease is rare but potentially deadly for people your age
- ✓ You are at increased risk from your mid-to-late teens into your early 20s
- ✓ Disease can come on suddenly, without warning, and can quickly become life-threatening
- ✓ The disease can result in severe, lifelong disability, such as hearing loss, amputation of arms or legs, and brain damage
- ✓ Meningococcal vaccines are safe and effective
- ✓ For routine vaccination, 2 doses are recommended

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Vaccinate!

- Follow ACIP recommendations for routine MenACWY immunization¹
 - Give dose 1 at 11-12 years of age AND dose 2 at 16 years of age
 - Use every opportunity to provide the booster dose when indicated

23 Reference: 1. CDC. *MMWR*. 2013;62(RR-2):1-28.



Vaccinate! (cont.)

- Follow ACIP guidance if MenACWY dosing is delayed¹:
 - If dose 1 is given at 13-15 years of age, administer dose 2 at 16-18 years of age
 - Observe minimum interval of 8 weeks between doses
 - If dose 1 is given at ≥ 16 years of age,^a dose 2 is not needed

^a A catch-up dose may be administered through 21 years of age to those who have not received a dose after their 16th birthday (eg, first-year college students 19-21 years of age living in residence halls)

24 Reference: 1. CDC. *MMWR*. 2013;62(RR-2):1-28.



Capture Every Opportunity to Immunize

- Consider every patient encounter an opportunity to vaccinate with MenACWY and all other age-appropriate vaccines¹⁻³
 - Well visits
 - Acute care and follow-up visits
 - Sports and camp physicals
 - Routine visits for chronic illnesses (eg, asthma)
 - Visits for influenza vaccines
- Administer all indicated vaccines at the same visit^{2,3}



Getty Images/Ariel Skelley

References: 1. CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. (The Pink Book). 2015:33-46. 2. CDC. *MMWR*. 2011;60(RR-2):1-61. 3. National Vaccine Advisory Committee (NVAC). *Pediatrics*. 2003;112(4):958-963.

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Implement Immunization Processes and Procedures

- Check immunization status of patients at every visit (“vital sign”)
 - Review immunization information system (IIS) record
- Establish mechanisms to identify patients due for vaccination
 - Electronic medical record (EMR) prompts
 - “Immunization due” clip attached to paper chart
- Screen for contraindications and precautions
 - Screening checklist: www.give2mcv4.org/essential-tools/screening-checklist-contraindications-teen-vaccines
- Develop protocols for vaccinating minors who present for care without a parent^{1,2}

References: 1. English A, et al. *J Adolesc Health*. 2013;53(4):550-553. 2. NVAC. *Am J Prev Med*. 2009;36(3):278-279.

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Tool Up

- Standing orders
- Patient reminder and recall systems
 - Strong evidence of effectiveness in improving adolescent vaccination rates¹
- www.Give2MenACWY.org
 - Checklists, standing orders, tip sheets, patient handouts, and more



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Reference: 1. Community Preventive Services Task Force. <https://www.thecommunityguide.org/findings/vaccination-programs-client-reminder-and-recall-systems>. Accessed February 19, 2018.

Measure Up

- Measure your practice's vaccination rates at least annually^{1,2}
 - IIS
 - EMR system
 - Chart audit
 - Claims data review
 - Assessment, Feedback, Incentives, and eXchange (AFIX)
 - For additional information and helpful contacts:
<http://www.cdc.gov/vaccines/programs/afix>



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References: 1. NVAC. *Pediatrics*. 2003;112(4):958-963. 2. CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases. (The Pink Book)*. 2015:33-46.



Set the Bar High



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- Create a culture that values well care for adolescents
- Establish expectations of compliance with vaccination recommendations—among patients, parents, and providers
- Emphasize the importance of following the ACIP recommended immunization schedule for adolescents
 - 11–12 years of age
 - 16 years of age
 - Whenever a patient is behind on immunization

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Strengthen the Partnership

- Recognize that success at immunization is a partnership between the health care provider, the adolescent, and the family
- Share your practice's pro-immunization philosophy and policies with every patient and family from the time of their first visit
 - Develop a written vaccination policy you can share with families
- Make vaccine education visible, accessible, and plentiful
 - Brochures, Vaccine Information Statements, posters, handouts for parents and teens, and website referrals
 - Designated staff members ready to provide vaccine information and answer questions

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Take Action!

- Identify adolescents in your practice who are eligible for their second dose of MenACWY vaccine
- Establish a goal for immunizing these patients
- Develop and commit office resources toward achieving that goal



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Remember, you're not done if you give just one.

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Helpful Resources

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Resources on Meningococcal Disease and Vaccination

- Immunization Action Coalition
 - www.Give2MenACWY.org
 - www.immunize.org/meningococcal
 - www.vaccineinformation.org
- Centers for Disease Control and Prevention
 - www.cdc.gov/meningococcal/
 - www.cdc.gov/meningitis/index.html
 - www.cdc.gov/vaccines/parents/protecting-children/index.html
- National Meningitis Association
 - www.nmaus.org
- Meningitis Angels
 - www.meningitis-angels.org

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Resources on Meningococcal Disease and Vaccination (cont.)

- Voices of Meningitis
 - www.voicesofmeningitis.org
- American Academy of Pediatrics
 - www2.aap.org/immunization
- American College Health Association
 - www.acha.org/ACHA/resources/topics/meningitis.aspx
- National Association of School Nurses
 - www.nasn.org
- National Foundation for Infectious Diseases
 - www.nfid.org

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