Meningococcal Conjugate and Meningococcal B Vaccines

Updates from the NC Immunization Branch

Meningococcal Conjugate Vaccine

- Multiple acronyms and abbreviations for this vaccine
- Can be very confusing
- MenACWY
- MCV4
- MenACWY-D= Menactra
- MenACWY-CRM= Menveo
- In NCIR it is abbreviated Meningo

Brands of MenACWY

- **Menactra – manufactured by Sanofi Pasteur Inc.**
  - Approved for use in ages 9 months through 55 years of age
  - ACIP Recommends all adolescents receive a dose at 11-12 years of age and a booster at 16 years of age. ACIP does not prefer one brand over the other
  - The most recent recommendations recommend the use of either MenACWY vaccine in adults age 56 years and older who were vaccinated previously with MenACWY and now need revaccination or are recommended to receive multiple doses (for example, adults with asplenia or microbiologists working with *N. meningitidis*). The use of these vaccines in people age 56 and older is off-label but recommended by ACIP. These recommendations are available at www.cdc.gov/mmwr/pdf/rr/rr6202.pdf, page 15.

Brands of MenACWY continued

- **Menveo – manufactured by GlaxoSmithKline (GSK)**
  - Approved for use in ages 2 months through 55 years of age
  - ACIP Recommends all adolescents receive a dose at 11-12 years of age and a booster at 16 years of age. ACIP does not prefer one brand over the other
  - The most recent recommendations recommend the use of either MenACWY vaccine in adults age 56 years and older who were vaccinated previously with MenACWY and now need revaccination or are recommended to receive multiple doses (for example, adults with asplenia or microbiologists working with *N. meningitidis*). The use of these vaccines in people age 56 and older is off-label but recommended by ACIP. These recommendations are available at www.cdc.gov/mmwr/pdf/rr/rr6202.pdf, page 15.

- For persons **9 months and older** the brands are interchangeable. If a child is at high risk for disease and is 2 months through 8 months, only Menveo should be used.

MenACWY ACIP Recommendations

- Link to ACIP Recommendations for Meningococcal vaccines https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html
- The most current comprehensive recommendations from the Advisory Committee on Immunization Practices (ACIP) for meningococcal polysaccharide and conjugate vaccines, which include serogroups A, C, W, and Y, were published in March 2013. http://www.cdc.gov/mmwr/pdf/rr/rr6202.pdf
- Recommendations for use of MenACWY among people with HIV infection were published in November 2016 and are available at www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6543.pdf, pages 1189–94

ACIP Recommendations summary for MenACWY

- MenACWY is recommended for these groups:
  - All children and teens ages 11-18 years
  - People 2 months and older with no spleen or functional issues with their spleen
  - People 2 mos and older who have an immune disorder (persistent complement component deficiency), including people who take Solaris
  - People 2 mos and older who have HIV infection
  - First-year college students living in a residential hall who did not receive a dose of MenACWY on or after their 16th birthday
  - People 2 mos and older who are at risk during an outbreak caused by a vaccine serogroup (A,C,W, or Y)
  - People 2 months and older who reside in or travel to certain countries in sub-Saharan Africa as well as to other countries for which meningococcal vaccine is recommended

What is the schedule for MenACWY?

- Schedule is the same for both Menactra and Menveo per ACIP recommendations
- All adolescents should receive at 11-12 years and a booster dose is recommended at 16 years of age
- If first dose is received at 13-15 years, a booster should be given at 16 years with a minimum interval of 8 weeks
- If the first dose is received after the 16th birthday, they do not need a booster unless they become at increased risk for disease
- People 19-21 are not routinely recommended to received it but may be given up to age 21 as a catch-up for those who have not received a dose after their 16th birthday

More on Scheduling and Recommendations

- Doses given prior to 10 years of age do not count toward the routinely recommended series.
- A booster dose is recommended at age 16 years even if 2 or more doses of MenACWY were received before age 16 years.
- For children at high risk who have not completed the Prevnar 13 series, you must wait at least 4 weeks after the Prevnar 13 series is complete before starting a series with Menactra. There is not space consideration with Prevnar 13 if you use Menveo

MenACWY Recommendations by Age and Risk Factor

Immunization Action Coalition is a great resource

www.immunize.org

Meningococcal ACWY Vaccine Recommendations by Age and Risk Factor

A separate vaccine is needed for protection against meningococcal serogroup B disease.

MenACWY = Menactra (Sanofi Pasteur) and Menveo (GlaxoSmithKline)
MenACWY-D = Menactra **MenACWY-CRM** = Menveo

Routine Recommendations for Use of Meningococcal A,C,W,Y Vaccine (MenACWY)

For preteens age 11 through 12 years	Give dose #1 of 2-dose MenACWY series. (Dose #2 is recommended at age 16 years.)
For teens age 13 through 15 years	Give catch-up dose #1 of 2-dose MenACWY series. (Dose #2 will be due at age 16 years.[1])
For teens at age 16 years	Give dose #2 of MenACWY.[1] (Separate from dose #1 by at least 8 weeks.)
Catch-up for teens age 17 through 18 years	If dose #2 not given at age 16 years, give dose #2 of MenACWY as catch-up.
Catch-up for teens age 16 through 18 years	If no history of prior vaccination with MenACWY, give 1 dose of MenACWY.
For first year college students living in residence halls	If no history of prior vaccination with MenACWY, give 1 dose of MenACWY. If history of 1 dose of MenACWY given when younger than age 16 years, give dose #2 of MenACWY.

Risk-based Recommendations for Persons with Underlying Medical Conditions or Other Risk Factors

TARGETED GROUP BY AGE/OR RISK FACTOR	PRIMARY DOSE(S)	BOOSTER DOSE(S)
Travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic, people present during outbreaks caused by a vaccine serogroup,[2] and other people with prolonged increased risk for exposure (e.g., microbiologists routinely working with *Neisseria meningitidis*)		
For age 2 through 6 months	Give 3 doses of Menveo, 8 weeks apart, and a 4th dose[3] at age 12–18 months. If possible, vaccination should begin at age 2 months.	If risk continues, give initial booster after 3 years followed by boosters every 5 years.[5]
For age 7 through 23 months who have not initiated a series of MenACWY	If age 7–8 months, initiate 2-dose series of Menveo[4] or, if age 9–23 months, give either Menveo or Menactra.[5] Separate the 2 doses by at least 12 weeks.[6]	
For age 2 years and older	Give 1 dose of either MenACWY vaccine.[5]	Boost every 5 years with MenACWY.[5,7,8]
People with persistent complement component deficiencies[9]		
For age 2 through 6 months	Give 3 doses of Menveo, 8 weeks apart, and a 4th dose[3] at age 12–18 months. If possible, vaccination should begin at age 2 months.	Give MenACWY booster after 3 years followed by boosters every 5 years thereafter.[5]
For age 7 through 23 months who have not initiated a series of MenACWY	If age 7–8 months, initiate 2-dose series of Menveo[4] or, if age 9–23 months, give either Menveo or Menactra.[5] Separate the 2 doses by at least 12 weeks.	
For ages 2 years and older	Give 2 doses of MenACWY (either vaccine), 8 weeks apart.[5]	Boost every 5 years with MenACWY.[5,7,10]
People with HIV infection or functional or anatomic asplenia (including sickle cell disease)		
For age 2 through 6 months	Give 3 doses of Menveo, 8 weeks apart, and a 4th dose[3] at age 12–18 months. If possible vaccination should begin at age 2 months.	Give MenACWY booster after 3 years followed by boosters every 5 years thereafter.[5,7]
For age 7 through 23 months who have not initiated a series of MenACWY-CRM	Give 2 doses of Menveo.[4] Separate the 2 doses by at least 12 weeks.	
For ages 2 years and older	Give 2 doses of MenACWY (either vaccine), 8 weeks apart. If using Menactra, give dose #1 at least 4 weeks after final dose of PCV13.[5]	Boost every 5 years with MenACWY.[5,7,10]

FOOTNOTES

1. The minimum interval between doses of MenACWY is 8 weeks.
2. Seek advice of local public health authorities to determine if vaccination is recommended.
3. If available, use the same vaccine product for all doses in the series given to infants, including the booster doses.
4. If initiating vaccination with Menveo in a child age 7 through 23 months, dose 2 should be given no younger than age 12 months.
5. If Menactra is to be administered to a child with increased risk for meningococcal disease, it should be given either before, at the same visit, or at least 6 months after DTaP. Menveo can be given at any time before or after DTaP.
6. If child age 7 through 23 months will enter an endemic area in less than 3 months, give doses as close as 2 months apart.
7. If most recent dose given when younger than age 7 years, give booster after 3 years; if given at or after age 7 years, give booster after 5 years; then boost every 5 years thereafter.
8. Booster doses are recommended if the person remains at increased risk.
9. Persistent complement component deficiencies include C3, C5–C9, properdin, factor D, factor H, or taking Soliris (eculizumab).
10. If the person has a history of only 1 dose, give dose 2 at least 8 weeks after dose 1, then boost every 5 years.

Technical content reviewed by the Centers for Disease Control and Prevention

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www.immunize.org/catg.d/p2018.pdf • Item #P2018 (5/19)

NC Law and Meningococcal Conjugate Vaccine

10A NCAC 41A .0401 DOSAGE AND AGE REQUIREMENTS FOR IMMUNIZATION

(a) Every individual in North Carolina required to be immunized pursuant to G.S. 130A-152 through 130A-157 shall be immunized against the following diseases and have documentation of age-appropriate vaccination in accordance with the Advisory Committee on Immunization Practices (ACIP).

(1) Diphtheria, tetanus, and pertussis (whooping cough) - five doses: three doses by age seven months; and 2 booster doses, the first by age 19 months and the second on or after the fourth birthday and before entering school for the first time. However:
- (A) Individuals who receive the first booster dose of diphtheria/tetanus/pertussis vaccine on or after the fourth birthday are not required to have a second booster.
- (B) Individuals entering college or university for the first time on or after July 1, 2008 must have had three doses of tetanus/diphtheria toxoid; one of which must be tetanus/diphtheria/pertussis.
- (C) A booster dose of tetanus/diphtheria/pertussis vaccine is required for individuals who have not previously received it and are entering the seventh grade or by 12 years of age, whichever comes first.

(2) Poliomyelitis vaccine - four doses: two doses of trivalent type by age five months; a third dose trivalent type before age 19 months; and a booster dose of trivalent type on or after his or her fourth birthday and before entering school for the first time. However:
- (A) An individual attending school who has attained his or her 18th birthday is not required to receive a polio vaccine.
- (B) The requirements for the booster dose on or after the fourth birthday do not apply to individuals who began school before July 1, 2015.
- (C) Individuals who receive the third dose of poliomyelitis vaccine on or after the fourth birthday are not required to receive a fourth dose if the third dose is given at least six months after the second dose.

(3) Measles (rubeola) vaccine - two doses of live, attenuated vaccine administered at least 28 days apart: the first dose on or after age 12 months and before age 16 months; and a second dose before entering school for the first time. However:
- (A) An individual who has been documented by serological testing to have a protective antibody titer against measles is not required to receive measles vaccine.
- (B) An individual who has been diagnosed before January 1, 1994, by a physician (or designee such as a nurse practitioner or physician's assistant) as having measles (rubeola) disease is not required to receive measles vaccine.
- (C) An individual born before 1957 is not required to receive measles vaccine except in measles outbreak situations.
- (D) The requirement for a second dose of measles vaccine does not apply to individuals who enter school or in college or university for the first time before July 1, 1994.

(4) Rubella vaccine - one dose of live, attenuated vaccine on or after age 12 months and before age 16 months. However:
- (A) An individual who has laboratory confirmation of rubella disease or who has been documented by serological testing to have a protective antibody titer against rubella is not required to receive rubella vaccine.
- (B) An individual who has attained his or her fiftieth birthday is not required to receive rubella vaccine except in outbreak situations.
- (C) An individual who entered a college or university after his or her thirtieth birthday and before February 1, 1989 is not required to meet the requirement for rubella vaccine except in outbreak situations.

(5) Mumps vaccine – two doses: the first dose of live, attenuated vaccine administered on or after age 12 months and before age 16 months; and a second dose before entering school, college or university for the first time. However:
- (A) An individual who has laboratory confirmation of disease, or has been documented by serological testing to have a protective antibody titer against mumps is not required to receive the mumps vaccine.
- (B) An individual born before 1957 is not required to receive the mumps vaccine.
- (C) The requirements for the mumps vaccine do not apply to individuals who entered the first grade for the first time before July 1, 1987 or college or university before July 1, 1994.
- (D) An individual entering school, college or university before July 1, 2008 is not required to receive a second dose of mumps vaccine.

(6) Haemophilus influenzae, b conjugate vaccine - three doses of HbOC or PRP-T or two doses of PRP-OMP before age 7 months and a booster dose of any type on or after age 12 months and by age 16 months. However:
- (A) Individuals who receive the first dose of Haemophilus influenzae, b vaccine on or after 7 months of age and before 12 months of age are required to have two doses of HbOC, PRP-T or PRP-OMP and a booster dose on or after 12 months of age and by age 16 months.
- (B) Individuals who receive the first dose of Haemophilus influenzae, b vaccine on or after 12 months of age and before 15 months of age are required to have only 2 doses of HbOC, PRP-T or PRP-OMP and a booster dose two months later.
- (C) Individuals who receive the first dose of Haemophilus influenzae, b vaccine on or after 15 months of age are required to have only one dose of any of the Haemophilus influenzae b conjugate vaccines.
- (D) No individual who has passed his or her fifth birthday is required to be vaccinated against Haemophilus influenzae, b.

(7) Hepatitis B vaccine – three doses: the first dose by age 3 months, a second dose before age 5 months and a third dose by age 19 months. However:
- (A) The last dose of the hepatitis B vaccine series shall not be administered before 24 weeks of age.
- (B) Individuals born before July 1, 1994 are not required to be vaccinated against hepatitis B.

(8) Varicella vaccine – two doses administered at least 28 days apart; one dose on or after age 12 months of age and before age 19 months; and a second dose before entering school for the first time. However:
- (A) An individual who has laboratory confirmation of varicella disease immunity or has been documented by serological testing to have a protective antibody titer against varicella is not required to varicella vaccine.
- (B) An individual who has documentation from a physician, nurse practitioner, or physician's assistant verifying history of varicella disease is not required to receive varicella vaccine. The documentation shall include the name of the individual with a history of varicella disease, the approximate date or age of infection, and a healthcare provider signature.
- (C) An individual born before April 1, 2001 is not required to receive varicella vaccine.
- (D) The requirement for the second dose of varicella vaccine shall not apply to individuals who enter Kindergarten or first grade for the first time before July 1, 2015.

(9) Pneumococcal conjugate vaccine – Four doses; 3 doses by age 7 months and a booster dose at 12 through 15 months of age. However:
- (A) Individuals who receive the first dose of pneumococcal conjugate vaccine on or after 7 months of age and before 12 months of age are required to have 2 doses at least 4 weeks apart; and a booster dose at 12 through 15 months of age.
- (B) Individuals who receive the first dose of pneumococcal conjugate vaccine on or after 12 months of age and before 24 months of age are required to have 2 doses at least 8 weeks apart to complete the series.
- (C) Individuals who receive the first dose of pneumococcal conjugate vaccine on or after 24 months of age and before 5 years are required to have 1 dose to complete the series.
- (D) No individual who has passed his or her fifth birthday shall be required to be vaccinated against pneumococcal disease.
- (E) An individual born before July 1, 2015 shall not be required to receive pneumococcal conjugate vaccine.

(10) Meningococcal conjugate vaccine – two doses: one dose is required for individuals entering the seventh grade or by 12 years of age, whichever comes first, on or after July 1, 2015. A booster dose is required by 17 years of age or by entering the 12th grade. However:
- (A) The first dose does not apply to individuals who entered seventh grade before July 1, 2015.
- (B) The booster dose does not apply to individuals who entered the 12th grade before August 1, 2020.
- (C) If the first dose is administered on or after the 16th birthday, a booster dose is not required.
- (D) An individual born before January 1, 2003 shall not be required to receive a meningococcal conjugate vaccine.

(b) The healthcare provider shall administer immunizations in accordance with this Rule. However, if a healthcare provider administers vaccine up to and including the fourth day prior to the required minimum age, the individual dose is not required to be repeated. Doses administered more than four days prior to the requirements are considered invalid doses and shall be repeated.

(c) The State Health Director may suspend temporarily any portion of the requirements of this Rule due to emergency conditions, such as the unavailability of vaccine. The Department shall give notice in writing to all local health departments and other providers currently receiving vaccine from the Department when the suspension takes effect and when the suspension is lifted. When any vaccine series is disrupted by such a suspension, the next dose shall be administered within 90 days of the lifting of the suspension and the series resumed in accordance with intervals determined by the most recent recommendations of the Advisory Committee on Immunization Practices. These recommendations may be accessed free of charge at http://www.cdc.gov/vaccines/acip/.

History Note: *Authority G.S. 130A-152(c); 130A-155.1;*
Eff. February 1, 1976;
Amended Eff. July 1, 1977;
Readopted Eff. December 5, 1977;
Temporary Amendment Eff. February 1, 1988, for a period of 180 days to expire on July 29, 1988;
Amended Eff. October 1, 1995; October 1, 1994; January 1, 1994; January 4, 1993;
Temporary Amendment Eff. February 23, 2000; August 20, 1999; May 21, 1999;
Amended Eff. August 1, 2000;
Temporary Amendment Eff. May 17, 2002; April 1, 2002; February 18, 2002; August 1, 2001;
Amended Eff. July 1, 2015; January 1, 2008; November 1, 2005; January 1, 2005; April 1, 2003;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. January 9, 2018.

10 NCAC 41A.0401

- (10)Meningococcal conjugate vaccine – two doses: one dose is required for individuals entering the seventh grade or by 12 years of age, whichever comes first, on or after July 1, 2015. A booster dose is required by 17 years of age or by entering the 12th grade. However:
  - (A) The first dose does not apply to individuals who entered seventh grade before July 1, 2015.
  - (B The booster dose does not apply to individuals who entered the 12th grade before August 1, 2020.
  - (C) If the first dose is administered on or after the 16th birthday, a booster dose is not required.
  - (D)An individual born before January 1, 2003 shall not be required to receive a meningococcal conjugate vaccine.

Law

- The law for MenACWY (meningococcal conjugate) came into effect July 1, 2015.
- Therefore, students who entered 7th grade before 7-1-15 do not have to have meningococcal conjugate vaccine
- And – The cohort of children entering 12th grade for whom the law applies will not occur until August 1, 2020.
- Anyone born before January 1, 2003 is not required to receive meningococcal conjugate
- A memo was sent out to all NCIP participants on June 13, 2019 https://www.immunize.nc.gov/memos/2019.6.13_5mcv4_requirement.pdf

Why was the meningococcal vaccine requirement added?

- To align NC law more closely with the current ACIP recommendations
- Disease caused by Neisseria meningitidis bacteria do not happen very often, but it is very dangerous and can be deadly. Even with treatment about 10-15 out of 100 people will die from it.
- The disease is spread person to person from close or lengthy contact with an infected person's saliva (i.e. kissing, coughing – especially if they are living in the same place).
- Disease can progress very quickly. Vaccine is the best way to protect teens from getting meningococcal disease.

Which vaccine does my student/patient need?

- Meningococcal conjugate vaccine is the vaccine that satisfies the NC Law/school requirement.
- Either product can be used (Menactra or Menveo)
- Another Meningococcal vaccine is available for teens but is not required by NC Law. This is the Serogroup B Meningococcal vaccine (MenB). We will talk about this more in later slides

Why does ACIP recommend a routine booster dose of MenACWY for adolescents at 16 years?

- The peak age for meningococcal disease is 16-21 years
- ACIP recommended routine MenACWY vaccination for all adolescents age 11 or 12 years to protect them as older teens.
- Subsequent studies indicated that protection provided by the vaccine wanes within 5 years following vaccination.
- Therefore, in 2010 ACIP recommended a booster dose of MenACWY during the age of increased meningococcal incidence.
  - P. 72 of this ACIP MMWR https://www.cdc.gov/mmwr/pdf/wk/mm6003.pdf

MenB vaccine

- Completely separate vaccine from Meningococcal Conjugate vaccine
- Only provides protection against Serogroup B meningococcal disease
- Can be given at the same visit as MenACWY
- Is listed in NCIR as MenB in a separate Tracking Schedule starting at 16 years of age to prompt the clinician to discuss the risks and benefits of vaccine administration with the patient and/or parents
- **The 2 brands of MenB are NOT interchangeable**
- MenB is not required by NC Law

ACIP Recommendations for MenB vaccine

- Recommendations for use of MenB among persons at increased risk were published in June 2015 and are available at www.cdc.gov/mmwr/pdf/wk/mm6422.pdf, pages 608–12.
- MenB recommendations for healthy adolescents and young adults were published in October 2015 and are available at www.cdc.gov/mmwr/pdf/wk/mm6441.pdf, pages 1171–6.

CURRENT ACIP Recommendations summary for MenB

- MenB is routinely recommended for these groups:
  - People 10 years and older who have functional or anatomic asplenia
  - People 10 years of age and older who have persistent complement component deficiency, including people taking Solaris
  - People age 10 years and older who are at risk during an outbreak caused by a vaccine serogroup, such as on college campuses
  - Microbiologists who work with meningococcus bacteria in a lab

- For adolescents and young adults, ACIP recommends that a MenB series may be administered to people 16-23 years of age with a preferred age of 16-18 years. This Category B recommendation allows the clinician to make a MenB recommendation based on the risk and benefit for the individual pt.

Meningococcal B Vaccine Recommendations by Age and Risk Factor

This document covers MenB vaccine. For information on vaccine that provides protection against meningococcal serogroup A, C, W, and Y disease, see www.immunize.org/catg.d/p2018.pdf.

Meningococcal Serogroup B Vaccines	
• Bexsero (MenB-4C, GlaxoSmithKline) • Trumenba (MenB-FHbp, Pfizer)	The two brands of MenB vaccines are not interchangeable. The series must be started and completed with the same brand of vaccine.

Recommendations for Meningococcal Serogroup B Vaccination (Category B) for People Who Are Not in a Risk Group	
Whom to vaccinate	**Vaccination schedule**
Teens and young adults ages 16 through 23 years who wish to be vaccinated. The preferred age for vaccination is 16 through 18 years.	Administer either • Bexsero: Give 2 doses, 4 weeks apart, or • Trumenba: Give 2 doses 6 months apart. If dose #2 is administered earlier than 6 months after dose #1, give a third dose at least 4 months after dose #2.

Risk-based Recommendations for Persons with Underlying Medical Conditions or Other Risk Factors	
Whom to vaccinate	**Vaccination schedule**
For people ages 10 years or older with • persistent complement component deficiencies[1] • anatomic or functional asplenia, including sickle cell disease, For people ages 10 years or older who • are present during outbreaks caused by serogroup B[2] • have prolonged increased risk for exposure (e.g., microbiologists routinely working with *Neisseria meningitidis*)	Administer either • Bexsero: Give 2 doses, 4 weeks apart, or • Trumenba: Give 3 doses on a 0-, 1–2-, and 6-month schedule.

1. Persistent complement component deficiencies include inherited or chronic deficiencies in C3, C5–C9, properdin, factor D, and factor H, or taking eculizumab (Soliris).
2. Seek advice of local public health authorities to determine if vaccination is recommended.

Technical content reviewed by the Centers for Disease Control and Prevention

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www.immunize.org/catg.d/p2035.pdf • Item #P2035 (10/17)

MenB Vaccine Recommendations by Age and Risk Factor

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ACIP June 27, 2019 Meeting Recommendation approvals:

- Booster doses of MenB vaccine are recommended for people at increased risk of meningococcal disease (complement component deficiency, complement inhibitor therapy [such as eculizumab], functional or anatomic asplenia, microbiologists at risk of occupational exposure to meningococcus, persons at risk of exposure during an outbreak). The first booster dose should be given 1 year after the primary series and repeated every 2–3 years as long as the increased risk is present.
- **Booster doses are not recommended for healthy adolescents routinely vaccinated with MenB vaccine.**

June 27, 2019 meeting approvals continued…

- Previous "Category B" language for MenB primary vaccination in adolescents updated to "ACIP recommends a MenB primary series for individuals aged 16–23 years based on shared clinical decision-making".

- **This recommendation does not become "official" until it is approved by the CDC Director and published in *Morbidity and Mortality Weekly Report (MMWR)*.**

MenB Vaccine Licensure

- 2 Brands of vaccine
  - **Trumenba (MenB-FHbp)- manufactured by Pfizer**
    - Approved for ages 10 years through 25 years
    - ACIP routinely recommends for certain high-risk groups. ACIP gives a Category B recommendation for people 16-23 years not at high risk. ACIP does not prefer one brand over the other
    - May be given to people age 26 years or older (consult ACIP recommendations at www.cdc.gov/mmwr/pdf/wk/mm6422.pdf)
  - **Bexsero (MenB-4C)- manufactured by GSK**
    - Approved for ages 10 years through 25 years
    - ACIP routinely recommends for certain high-risk groups. ACIP gives a Category B recommendation for people 16-23 years not at high risk. ACIP does not prefer one brand over the other
    - May be given to people age 26 years or older (consult ACIP recommendations at www.cdc.gov/mmwr/pdf/wk/mm6422.pdf)

What is the schedule for Trumenba?

- Trumenba is either a 2-dose series administered 6 months apart or a 3-dose series administered at 0, 1-2 months and 6 months
- Healthy adolescents not at increased risk for meningococcal disease should receive 2 doses 6 months apart.
  - If the second dose is given at an interval of less than 6 months, a third dose should be given at least 4 months after the 2nd dose.
- Persons at increased risk for meningococcal disease (listed on a previous slide) and for use during Serogroup B outbreaks, 3 doses of Trumenba should be administered at 0, 1-2 and 6 months.

What is the schedule for Bexsero?

- 2 doses given at least 1 month apart

Trumenba and Bexsero are not interchangeable

- The ACIP meningococcal serogroup B vaccine recommendations (www.cdc.gov/mmwr/pdf/wk/mm6441.pdf, pages 1171–6) state that the same vaccine must be used for all doses in the MenB series.

Should college students be vaccinated against meningococcal serogroup B disease?

- "Several small outbreaks of meningococcal serogroup B disease have occurred on college campuses since 2013. It has been CDC's position that college students in general are not at higher risk of meningococcal serogroup B disease than persons of the same age who are not college students. However, data derived from enhanced CDC meningococcal disease surveillance presented at the February 2018 ACIP meeting suggests that while the incidence of serogroup B meningococcal disease in college students is low, college students age 18–21 years are at increased risk compared to non-college students (see www.cdc.gov/vaccines/acip/meetings/downloads/slides-2018-02/Mening-02-Meyer-508.pdf). These data have not yet been published. ACIP has not changed its recommendation that MenB vaccine is not routinely recommended for college students. However, college students may choose to receive MenB vaccine to reduce their risk of meningococcal serogroup B disease."
- Per Ask the Experts http://www.immunize.org/askexperts/experts_meningococcal_b.asp

The ACIP recommendations for meningococcal serogroup B (MenB) vaccine say the vaccine will provide "short term protection." What does "short term protection" mean?

- MenB vaccines were approved based on the serologic response to the vaccine. No data are available on vaccine effectiveness against clinical disease or duration of protection against clinical disease. Short term protection refers to the known duration of the antibody response. Available data indicate that a protective antibody level should persist in most recipients for 24 to 48 months after vaccination. This issue will continue to be monitored. For more information, see www.cdc.gov/mmwr/pdf/wk/mm6441.pdf, pages 1171–5.

In Summary…

- MenACWY and MenB are completely different vaccines
- MenACWY is required by law, MenB is not
- Effective August 1, 2020 a booster dose of MenACWY for individuals is required before entering the 12th grade or by 17 years of age, whichever comes first.
  - This is not a new law. The cohort of children who entered the 7th grade on or after July1, 2015 listed in the current law will be turning 17 or be in the 12th grade as of August 1, 2020.
- There are revised ACIP recommendations voted on at the June 27,2019 meeting for meningococcal vaccines that will become official when published in an MMWR. These are still pending.

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Public Health Nurse Consultant
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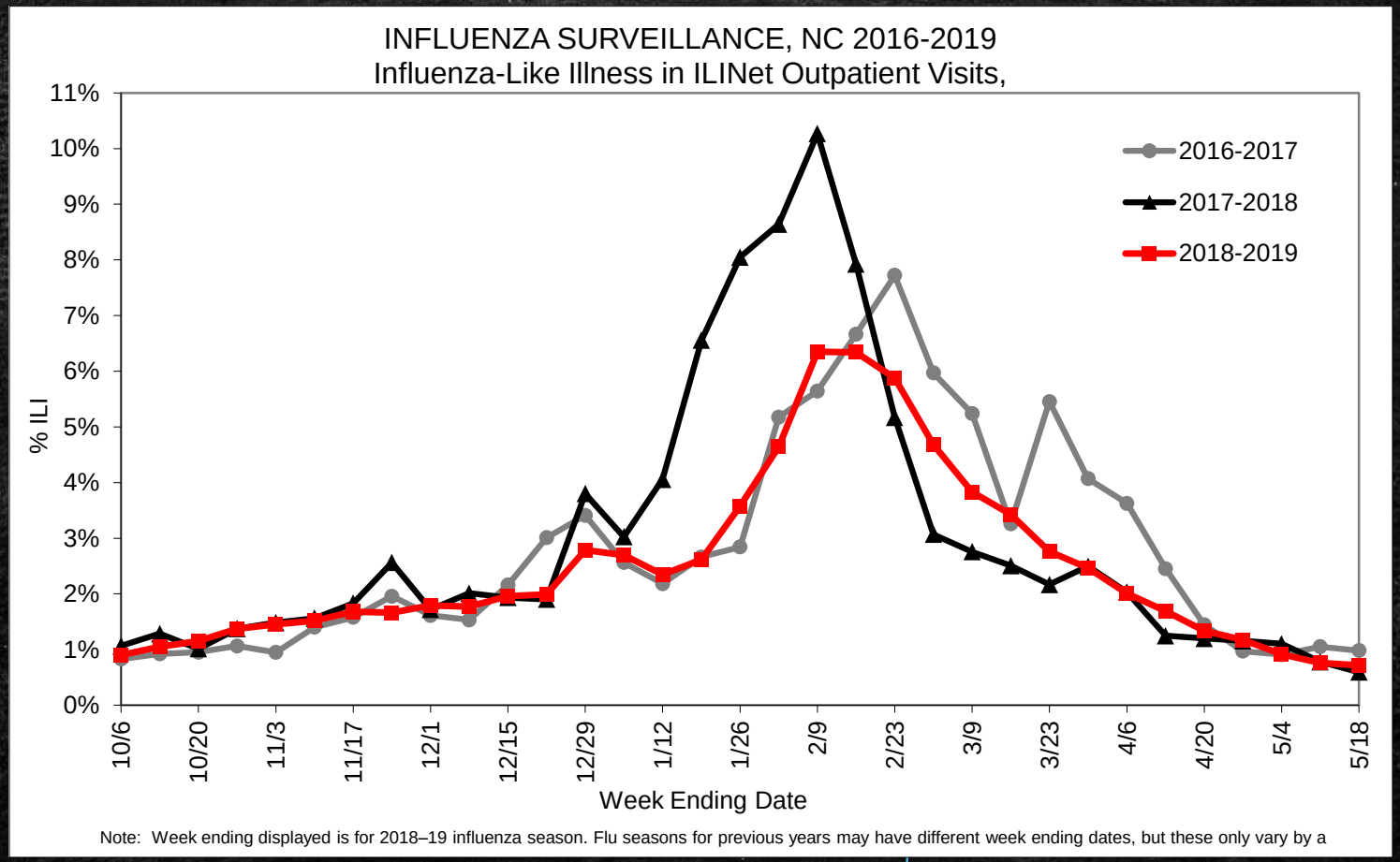
QUESTIONS????

INFLUENZA & VPD UPDATE
NCIC Meeting
August 28, 2019

Anita Valiani, MPH
NC DHHS – Communicable Disease Branch
Email: anita.valiani@dhhs.nc.gov

2018-2019 Flu Season Final Summary



2018-2019 Flu Season Final Summary

National Picture

- Predominant strain Flu A(H1N1) and Flu A(H3)
- Over the past 5 seasons, the peak of ILI has ranged from 3.6% - 7.5%
- For the 2018-19 season ILI activity was at or above baseline for **21** weeks

North Carolina Picture

- Predominant strain Flu A(H3)
- Over the past 5 seasons, peak of ILI has ranged from 4.2% - 10.3%
- For the 2018-19 season ILI activity was at or above baseline for **24** weeks

2018-2019 Flu Season Final Summary

Influenza vaccine effectiveness for all vaccine types, 2018-19

Against influenza A or B viruses						
Age group (years)	**Influenza positive Total**	**Influenza positive (% Vaccinated)**	**Influenza negative Total**	**Influenza negative (% Vaccinated)**	**Adjusted VE %**	**Adjusted 95% CI**
All ages	465	(43)	2789	(57)	**47%**	**(34 to 57)**
6 mos–17	173	(34)	926	(56)	**61%**	**(44 to 73)**
18–49	166	(35)	932	(43)	**37%**	**(9 to 56)**
≥ 50	126	(65)	931	(72)	**24%**	**(-15 to 51)**

VE for Flu A(H3N2) for all ages was 44%

2018-2019 U.S. Flu Season: Preliminary Burden Estimates

CDC estimates that, from **October 1, 2018,** through **May 4, 2019**, there have been:

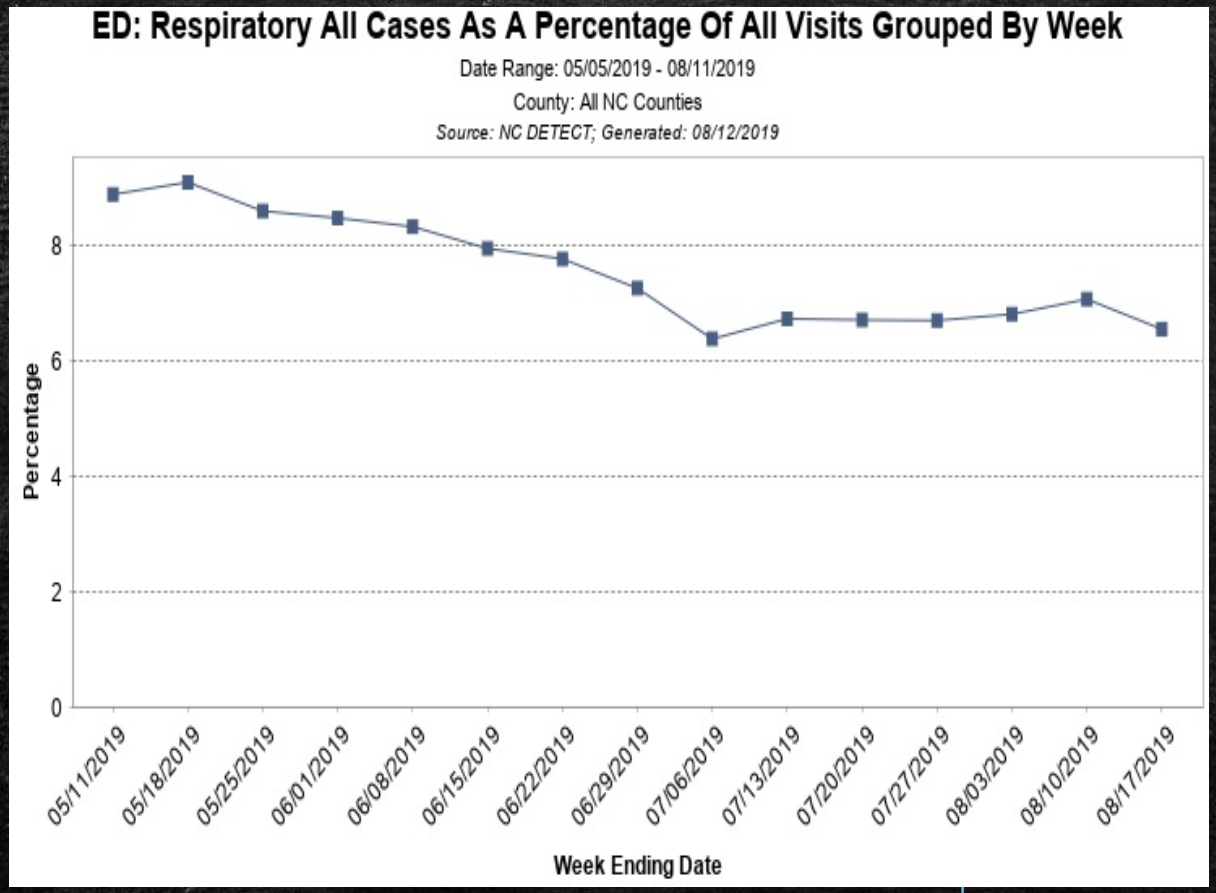
37.4 million – 42.9 million
flu illnesses

17.3 million – 20.1 million
flu medical visits

531,000 – 647,000
flu hospitalizations

36,400 – 61,200
flu deaths

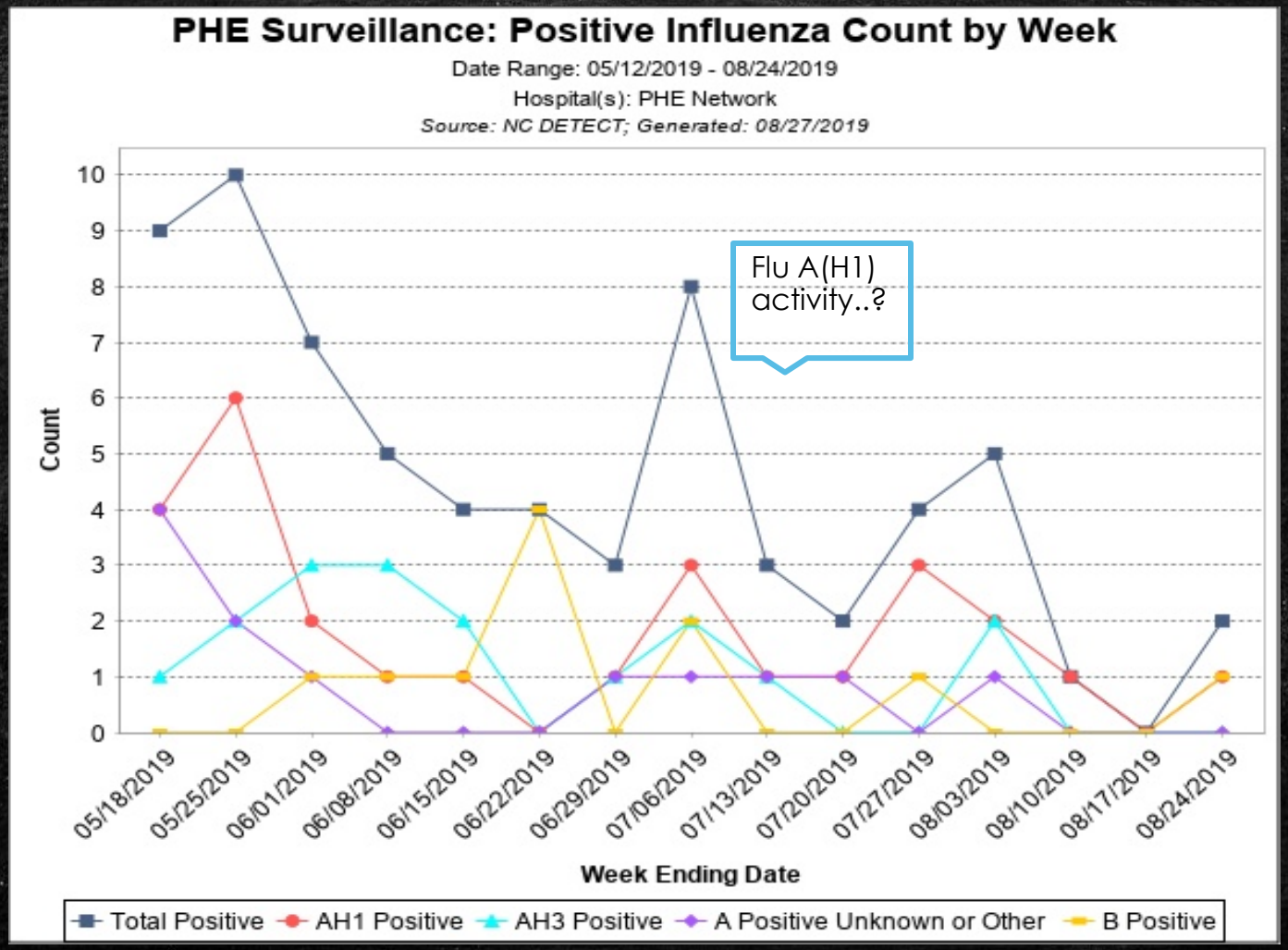
Summer ILI Activities



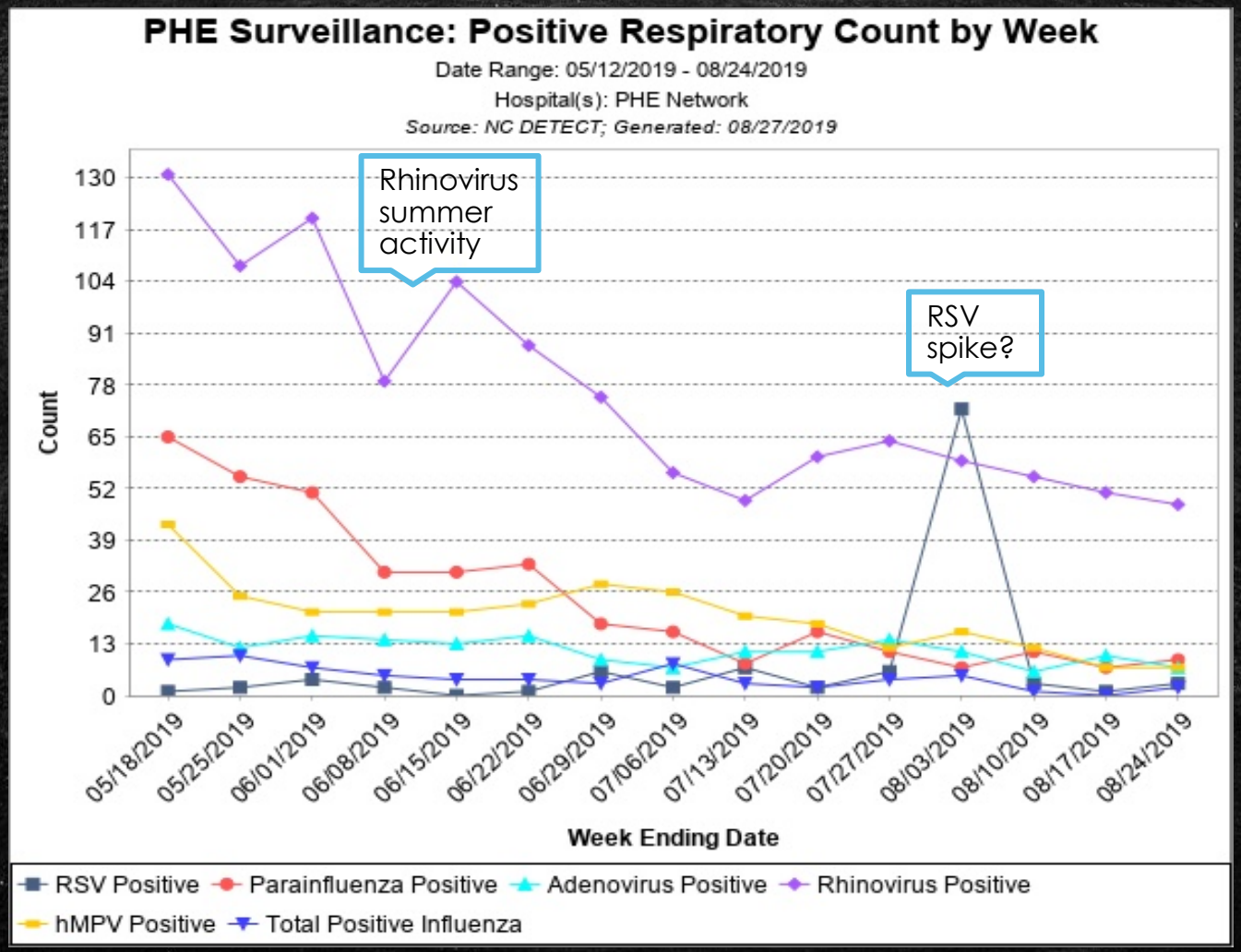
Viruses are still circulating...

Data from NC DETECT

Summer Flu Activities



Summer Respiratory Activities



2019-2020 Flu Season

- Nasal spray (LAIV) still recommended
- Most regular dose egg-based flu shots will be quadrivalent
- Two age recommendation updates:
  - Fluarix Quadrivalent was changed from 3 years and older to 6 months and older
  - Afluria Quadrivalent was changed from 18 years and older to 5 years and older
- Baloxavir marboxil (trade name Xofluza®) is a single-dose antiviral drug approved in October 2018, for treatment of acute uncomplicated flu in people 12 years and older with flu symptoms less than 48 hours

2019-2020 Flu Season: Vaccine Components

Trivalent (three-component) vaccines contain:

- 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 (four-component) vaccines, also contains:

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

(2018-19 included- A/Michigan/45/2015 (H1N1)pdm09-like virus and A/Singapore/INFIMH-16-0019/2016 A(H3N2)-like virus)
https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm?s_cid=rr6803a1_w#primarychangesandupdatesintherecommendations

VPD Update

Varicella (Chickenpox) Reporting

Varicella (Chickenpox)

- Varicella (chickenpox) is a febrile illness characterized by a distinctive itchy rash that progresses rapidly from red spots to fluid filled lesions.
- Highly communicable and is spread person-to-person through respiratory tract secretions or contact with vesicular fluid from skin lesions.
- A person with varicella is contagious from 1-2 days before the onset of rash to 4-5 days after onset of rash.
- There is a vaccine; 2 doses- one at 12-15 months, second at 4-6 years.
- Currently, reporting occurs through reporting of outbreaks and deaths.

Varicella (Chickenpox)

Reason for rule change:

- Varicella deaths were nationally notifiable in 1999
- Varicella condition was added in 2005, mandated reporting in 40 states
- Rapid case identification is critical for public health action and control of outbreaks
- Disease surveillance will help understand incidence in post-vaccine era.

Questions? Comments?

Email: Anita.valiani@dhhs.nc.gov

NC Immunization Coalition

A Community Voice for Vaccines

North Carolina Immunization Coalition

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NC Immunization Coalition

MISSION

Increase immunization uptake in North Carolina

North Carolina Immunization Coalition

A Community Voice for Vaccines

NC Immunization Coalition

NC Immunization Conference –

- 170 plus new members
- Stakeholders want to participate

North Carolina Immunization Coalition
A Community Voice for Vaccines

NC Immunization Coalition

Steering Committee

- Responsible for the direction of the Coalition
- Partner with stakeholders
- Develop programs
- Support/expand existing programs

North Carolina Immunization Coalition
A Community Voice for Vaccines

NC Immunization Coalition

Become a leader in our state!

Expanding the Steering Committee –

- Do you administer vaccines?
- Do you have vaccine expertise?
- Does your clinical practice provide immunizations?
- Do you want to improve vaccine uptake in NC?
- Does your company produce/pay for immunizations?
- Are you involved with health policy?

North Carolina Immunization Coalition
A Community Voice for Vaccines

Interested?
Connect with NCIC

NCImmunizationCoalition@gmail.com

https://www.whyimmunize.org/nc-immunization-coalition/

North Carolina Immunization Coalition
A Community Voice for Vaccines

NCIC would like to thank The Arizona Partneship for Immunization for hosting the NCIC webpage.
Below you will find North Carolina resources and information about the NCIC.

North Carolina Immunization Coalition (NCIC)

A Community Voice for Vaccines

Welcome to the North Carolina Immunization Coalition (NCIC) webpage. Here we have information on our coalition as well as science-based resources and links for you to review. Our coalition is comprised of organizations and individuals from around our great state with the common mission:

The NC Immunization Coaltion is a statewide network that coordinates efforts to reduce morbidity and mortality associated with vaccine-preventable diseases.

NCIC Goals:

“Across NC, More Parents Are Using Religious Exemption To Avoid Vaccinating Children”

By Jason deBruyn

Aug 15, 2019

WUNC

North Carolina Immunization Coalition

A Community Voice for Vaccines

NC Immunization Coalition

Calling everyone to participate!

- *Membership*
- *Steering Committee*
- *Chair*

North Carolina Immunization Coalition
A Community Voice for Vaccines

We welcome your input on:

- Organizations, parent groups or other avenues for the dissemination of the parent survey.
- Sources of information to add to web-corpus.
- Databases of vaccine myths.

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