



Disease Detectives

Communicable Disease Control *UPDATE*

MECKLENBURG COUNTY HEALTH DEPARTMENT
A Quarterly Publication

Red Measles Outbreak Investigation 2004

North Carolina health officials confirmed 2 cases of red measles (Rubeola) in two Martin County children. An 11- year old child returned from a trip to England on June 20 and had rash onset on June 25. **This child was NOT immunized due to a religious exemption.** The infected 11- year- old exposed an 11- month- old infant who had a rash onset of July 4. The infected infant may have exposed campers, counselors, parents and visitors at a 4H Camp in Tyrell County on July 2. This child was not yet immunized since the first MMR is not given until on or after the first birthday.

Persons, including counselors, who attended the Eastern 4H Center camp were identified in 31 North Carolina counties, including Mecklenburg County. All campers, counselors and visitors to the camp on July 2 were contacted by their local health departments and assessed for symptoms of measles. Exposed people who did not have two doses of measles vaccine were contacted so that that they could be immunized immediately. A *Health Alert* was sent to all physicians in Mecklenburg County August 5, 2004 advising healthcare providers to increase their index of suspicion for measles in persons presenting with symptoms consistent with the disease and to consider obtaining serum for Rubeola IgM testing. Because the disease is highly contagious, State Health Director, Leah Devlin, stressed that children who attended the Eastern 4H Center camp July 2nd must be vaccinated against the disease before entering school. Vaccination records for all school-age children in Martin, Tyrell, and Washington counties were

checked so that all children would be fully vaccinated against measles before starting school. Several contacts were identified in Mecklenburg County. All contacts were asymptomatic and monitored until after the incubation period was over. All contacts had proof of 2 MMR vaccines. No additional cases have been identified.

“Measles is a serious viral disease that can cause ear infections, inflammation of the brain, pneumonia, and even death. Prior to vaccine licensure, the disease caused thousands of deaths worldwide; however, measles cases have dramatically declined since 1991 because of efforts to ensure children are age-appropriately vaccinated with the measles-mumps-rubella (MMR) vaccine,” said Leah Devlin. “Vaccination is the key to disease prevention,” she added. Measles containing vaccine is 95% effective in children after the first dose and 98% effective after the second dose.

Measles is reportable to the Health Department within 24 hours. The prompt reporting of *suspected and/or confirmed* cases of measles is essential to preventing an outbreak. Control measures instituted during an investigation include excluding a child from attending school until 4 days after appearance of the rash and immunizing contacts, preferably within 72 hours of exposure. Investigation of contacts and source of infection are essential to limit the spread of disease.

For more information, contact Monica O’Lenic at olenimt@co.mecklenburg.nc.us or 704.336.6436.

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Did you know...

... the Mecklenburg County Health Department this year faxed Health Alerts to all medical providers on E. coli O157:H7, Pertussis, MRSA, West Nile Virus and Flu? If you did not receive these faxed reports, please call 704.336.2817 so we can update our broadcast fax information. To receive email notification of these alerts, send a message to houselm@co.mecklenburg.nc.us with your email information.

Pediatric Influenza Deaths NOW Reportable

Effective October 1, 2004, a temporary order was issued pursuant to G.S. 130 A-141.1 requiring physicians licensed to practice medicine in North Carolina to report all influenza virus infections causing death in persons less than 18 years of age. The report is required to be made within 24 hours of death and shall be made to the local health director of the county or district in which the physician practices. The local health director shall immediately report the death to the Division of Public Health.

To report, please call one of the communicable disease nurses at the Mecklenburg County Health Department (page 6) within 24 hours of death.

Influenza Deaths, Pediatric (< 18 years)

Clinical Description

An influenza-like illness is characterized by:

Fever and one of the following:

- Cough
- Sore throat
- Other symptoms can include malaise, headache, vomiting and diarrhea

Laboratory Criteria for Diagnosis

- Isolation of influenza virus from a clinical specimen, or
- Rapid antigen test, or
- Direct fluorescent antibody (DFA), or
- Enzyme immunoassay (EIA), or
- Reverse-transcriptase polymerase chain reaction (RT-PCR)

Laboratory confirmation of a case can be made post-mortem.

Case Confirmation

Confirmed: A death in an individual less than 18 years of age that is associated with influenza that is laboratory confirmed.

This periodical is written and distributed quarterly by the Communicable Disease Control Program of the Mecklenburg County Health Department for the purpose of updating the medical community in the activities of Communicable Disease Control. Program members include: Health Director—E. Wynn Mabry, MD; Medical Director—Dr. Stephen R. Keener; Health, Environmental Health Administrator—Bobby Cobb; Director, CD Control—Carmel Clements; Program Chief—Wanda Locklear; CD Control nurses—Shannon Gilbert, Nancy Hill, Jane Hoffman, Lorraine Houser, Monica O'Lenic, Elizabeth Quinn; TB Outreach nurses—Marcia Frechette (also Adult Day Health), Faye Lillieholm; Child Care nurse—Gail Mills; Rabies/Zoonosis Control—Al Piercy; Program Chief STD/HIV—Carlos McCoy; Syphilis Coordinator—Ann White; DIS—Mary Ann Curtis, Michael Rogers, Lavon Sessoms; Regional Surveillance Team—Bobby Kennedy, Belinda Worsham; Office Assistants—Vivian Brown, Linda Kalman, Natalie Jones.

Monica O'Lenic
Lorraine Houser
Co-Editors

New Treatment for Resistant Gonorrhea

On April 30, 2004 the CDC published new gonorrhea treatment options for men who have sex with men (MSM). This is in direct response to increasing resistance to the previously recommended class of fluoroquinolone antibiotics, such as Ciprofloxacin, Ofloxacin and Levofloxacin.

The CDC recently released 2003 data showing a 5% rise in the prevalence of fluoroquinolone resistant gonorrhea cases among MSM. This level of resistance often is used as the level at which a therapeutic regimen should be changed. Based on these findings, CDC's new treatment recommendations for MSM with gonorrhea include the injectable antibiotic, Ceftriaxone, also known as Rocephin, in a 125-mg intramuscular (IM) injection for pharyngeal and urogenital cases. Other options for urogenital cases are Spectinomycin in a 2-gram IM injection, or Cefixime in a liquid form.

According to many experts in CDC's STD Prevention and Treatment program, drug resistant gonorrhea is just one of the many challenges facing STD preven-

tion and care. The new guidelines encourage sexually active men who have sex with men to seek bi-annual exams. For those who have multiple partners and practice unprotected sex, monthly testing is recommended.

Given the low prevalence of fluoroquinolone resistant gonorrhea in heterosexuals, no change in current treatment is being recommended. However, if drug resistance among heterosexuals continues to increase in certain areas of the country, some local areas may look to adopt CDC's new treatment recommendations. For now, CDC will concentrate on working with state and local health departments to ensure providers are updated on the new treatment recommendations, and are provided with current statistics for further evaluation. References provided on request.

For questions concerning local and regional statistics, reporting of new cases or general inquiries, contact Mike Mercurio at 704.336.7577 or michael.mercurio@ncmail.net.

Pertussis Vaccine for Teens & Adults

There is a growing concern about the increase of pertussis (whooping cough) cases in the United States and globally. Reported cases of pertussis dropped dramatically after routine childhood immunization was introduced in the 1940's. Since the mid-1970's, the number of pertussis cases has been rising. In 2003, almost 10,000 cases were reported, the highest number reported since 1964. According to the CDC, from 1997 to 2000, about one-third of all reported pertussis cases occurred in adolescents 10 years of age or older. Pertussis in adolescents and adults, in whom classic signs and symptoms are often absent, may go undiagnosed and be the source of infection for susceptible infants and other family members. Many such cases occur in previously immunized persons. This suggests waning immunity following immunization.

Outbreaks occur typically every 3 to 4 years. A marked decline has occurred in incidence and mortality rates during the past 40 years, chiefly in communities with active immunization programs and where good nutrition and medical care are avail-

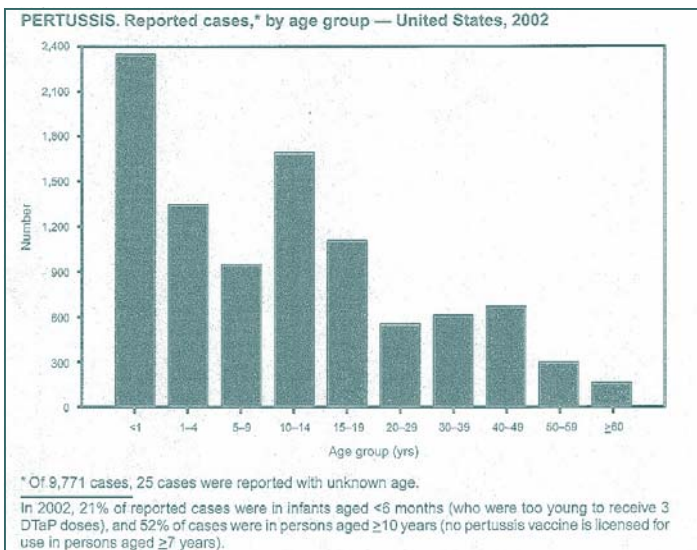
able. In 1999, despite a global vaccination coverage of around 80%, there were still an estimated 48.5 million pertussis cases in children worldwide with an estimated 295,000 deaths, nearly all in Africa. In countries with high vaccination coverage, the incidence rate in children under 15 is less than 1 per 100,000.

Immunization is the most effective approach to pertussis control. Educating the public, particularly parents of infants, about the dangers of whooping cough and the advantages of initiating immunization on time and adhering to the immunization schedule is important due to the wide negative

publicity given to adverse reactions.

Current vaccines are not recommended in children after the seventh birthday since local reactions may be increased in older children and adults. Formulations of acellular pertussis vaccine for use in adolescents and adults have been licensed and are available in several other countries but not in the United States. The good news... as of July 2004, GlaxoSmith Kline (GSK) has submitted a Biologics License application (BLA) for *Boostrix*TM. GSK is seeking approval for the booster vaccine candidate, a similar formulation that is available in Australia and a number of countries in Europe, South America and Asia, as a vaccination against the disease diphtheria, tetanus and pertussis. *Boostrix*TM was developed to offer protection against pertussis to adolescents and adults. Competitor, Aventis Pasteur, is also preparing to seek approval to sell its *Adacel*TM pertussis-tetanus-diphtheria booster for ages 11-64.

For more information, contact Monica O'Lenic at olenimt@co.mecklenburg.nc.us or 704.336.6436.



FAQ

Q. Have you heard if the Prevnar vaccine shortage has been resolved?

A. Since February 2004, CDC has recommended that 7-valent pneumococcal conjugate vaccine (PCV7), also known as Prevnar and manufactured by Wyeth Vaccines, be administered to healthy children on an abbreviated schedule to conserve the limited supply. Production capacity has been increased, and supply is now sufficient to meet the

national demand for vaccine on the routine, 4-dose schedule. Effective immediately, CDC, in consultation with the Advisory Committee on Immunization Practices and the American Academy of Pediatrics, recommends that providers resume administration of PCV7 according to the routine schedule.

Q. What is the Health Department's recommendation regarding administration of tetanus and/or Hepatitis A

vaccine to flood victims?

A. Flooding poses no additional risk of tetanus. If there is a dirty injury and no history of a tetanus vaccine in the last five years then tetanus vaccination is recommended. There is no additional risk of exposure to Hepatitis A from flooding. The water dilution factor is such that the exposure would be remote. Hepatitis A immunoglobulin would only be necessary if there was an outbreak.

Perinatal Hepatitis B Prevention – Birth Years 2001 & 2002

Since 1990, physicians in North Carolina have been required to test all pregnant females for hepatitis B virus. The law requires physicians to report hepatitis B surface antigen (HBsAg) positive patients to the local health department. Communicable Disease Control nurses at local health departments in North Carolina are tracking the exposed infants to assure that proper immunoprophylaxis and post-vaccination serologic testing are done. Post-vaccination testing is needed to identify infected infants and infants in need of re-vaccination. The Communicable Disease Control nurses at the Mecklenburg County Health Department have tracked all known exposed infants for the last 7 years.

Infants who become infected by perinatal transmission have a 90% risk of chronic hepatitis B infection, and up to 25% of the chronically infected infants will die of liver disease as adults. Treating exposed newborns with Hepatitis B Immune Globulin (HBIG) and the Hepatitis B vaccine

(HBV) series is 85-95% effective at preventing chronic infection. HBIG and HBV #1 should be given within 12 hours of birth. The second HBV should be given at age 1-2 months and the third HBV at age 6 months.

The rate of HBsAg positive women giving birth in Mecklenburg County has consistently remained higher than the state average. In 2001, the rate of infant exposure in North Carolina was 15 per 10,000 births compared to 27 per 10,000 births in Mecklenburg County. In 2002, the rate of infant exposure in North Carolina was 18 per 10,000 births compared to 39 per 10,000 births in Mecklenburg County.

CD Control nurses tracked 33 infants born in 2001. Thirty-two infants (96%) received HBIG and HBV at birth. Twenty-four (72%) received the third hepatitis B vaccine by age 8 months. Eighteen (54%) received post-vaccination testing. One infant born in 2001 tested positive for HBsAg even though post-exposure prophylaxis was administered to this infant as recom-

mended.

Forty-eight infants were tracked in 2002. Forty-seven (97%) received HBIG and HBV at birth. Thirty-two infants (66%) received the third hepatitis B vaccine by age 8 months. Twenty-four infants (50%) received post-vaccination testing. One infant born in 2002 tested positive for HBsAg even though post-exposure prophylaxis was administered to this infant as recommended.

Stringent efforts must be continued in both the public and private sectors to ensure all pregnant females are tested for Hepatitis B; all pregnant females who are HBsAg positive are reported to the Health Department; all exposed infants are given immunoprophylaxis according to CDC guidelines; and all exposed infants receive post-vaccination testing.

For more information, contact Jane Hoffman at 704.336.5490 or hoffmli@co.mecklenburg.nc.us.

Summary of Infants Born to Reported Hepatitis B Positive Women – 2001 & 2002

	North Carolina 2001	North Carolina 2002	Mecklenburg 2001	Mecklenburg 2002
Total live births to HBsAg positive women	178	214	33	48
Rate per 10,000 live births	15 per 10,000 births	18 per 10,000 births	27 per 10,000 births	39 per 10,000 births
No. infants who received HBIG and hepatitis B vaccine at birth	168 (94.3%)	203 (94.8%)	32 (96.9%)	47 (97.9%)
No. infants who received third hepatitis B vaccine by age 8 months	108 (60.6%)	133 (62.1%)	24 (72.7%)	32 (66.6%)
No. infants who received third hepatitis B vaccine by age 12 months	129 (72.4%)	170 (79.4%)	26 (78.7%)	40 (83.3%)
No. infants who received post-vaccination testing	91 (51.1%)	111 (51.8%)	18 (54.5%)	24 (50.0%)
No. infants who tested HBsAg positive	3 (1.6%)	3 (1.4%)	1 (3.0%)	1 (2.0%)
No. infants who moved out of state	3 (1.6%)	7 (3.2%)	1 (3.0%)	0 (0.0%)

State Center for Health Statistics:

Total live births year 2001: N.C. 118,112; Mecklenburg 11,957

Total live births year 2002: N.C. 117,307; Mecklenburg 12,296

Infant information compiled by Patricia Poole, R.N. in the Immunization Branch at N.C. D.H.H.S. on July 20, 2004

Reportable Diseases In North Carolina

Telephone reports are requested within 24 hours for diseases of unusual significance, incidence, or occurrence which may merit an epidemiological evaluation; and foodborne and waterborne outbreaks where a common source is suspected.

Telephone reports should include the following information:
disease; date of onset; patient name/address/phone number/age/race/sex; laboratory confirmation (yes or no); name and phone number of person making the report.

Report within 24 hours (by phone and card)

Anthrax	H. Influenzae, Invasive Disease	Salmonellosis
Botulism	HUS/Thrombotic Thrombocytopenic Purpura	SARS
Campylobacter infection	Hepatitis A	Shigellosis
Chancroid	Hepatitis B, Acute	Smallpox
Cholera	Influenza deaths, Pediatric (temporary order)	Syphilis, All Stages
Cryptosporidiosis	Listeriosis	Tuberculosis
Cyclosporlasis	Measles (Rubeola)	Tularemia
Diphtheria	Meningococcal Disease	Typhoid, Acute
E. coli, Shiga toxin-producing	Plague	Vaccinia
Foodborne Disease	Polio, Paralytic	Vibrio Infections
Gonorrhea	Rabies, Human	Viral Hemorrhagic Fever
Granuloma Inguinale	Rubella	Whooping Cough

Report within 7 days (by card)

AIDS	Legionellosis	Rubella Congenital Syndrome
Brucellosis	Leptospirosis	Streptococcal Infection, Group A, Invasive Disease
Chlamydia	Lyme Disease	Tetanus
Dengue	Lymphogranuloma Venereum	Toxic Shock Syndrome
Ehrlichiosis, Granulocytic	Malaria	Toxoplasmosis, Congenital
Ehrlichiosis, Monocytic	Meningitis, Pneumococcal	Transmissible Spongiform En- cephalopathies (CJD/vCJD)
Encephalitis, Arboviral	Mumps	Trichinosis
Enterococci, Vancomycin resistant	Nongonococcal Urethritis	Typhoid Carriage
Hantavirus Infection	Psittacosis	Typhus, Epidemic louse-borne
Hepatitis B, Carrier	Q Fever	Yellow Fever
Hepatitis C, Acute	Rocky Mountain Spotted Fever	
HIV infection		

Reporting Communicable Diseases – Mecklenburg County
To request N.C. Communicable Disease Report Cards, telephone 704.336.2817
Mark all correspondence “CONFIDENTIAL”

Tuberculosis:

TB Clinic
Mecklenburg County Health Department
2845 Beatties Ford Road
Charlotte, NC 28216

704.432.2666
FAX 704.432.2493

Sexually Transmitted Diseases, HIV, & AIDS:

Regional Office HIV/STD Surveillance
Mecklenburg County Health Department
700 N. Tryon Street, Suite 214
Charlotte, NC 28202

704.336.6480
FAX 704.336.6200

All Other Reportable Communicable Diseases including Viral Hepatitis A, B & C:

Report to any of the following nurses:

Shannon Gilbert, RN
Nancy Hill, RN,
Jane Hoffman, RN,
Lorraine Houser, RN
Monica O’Lenic, RN
Elizabeth Quinn, RN
Communicable Disease Control
Mecklenburg County Health Department
700 N. Tryon Street, Suite 271
Charlotte, NC 28202

704.353.1270
704.336.5498
704.336.5490
704.336.6438
704.336.6436
704.336.5398
FAX 704.353.1202

Animal Bite Consultation / Zoonoses / Rabies Prevention:

Al Piercy, RS
Communicable Disease Control
Mecklenburg County Health Department
700 N. Tryon Street, Suite 272
Charlotte, NC 28202
or State Veterinarian, Lee Hunter, DVM
State after hours

704.336.6440
FAX 704.353.1202

919.733.3410
919.733.3419

Child Daycare Nurse Consultant:

Gail Mills, RN
Communicable Disease Control
Mecklenburg County Health Department
700 N. Tryon Street, Suite 271
Charlotte, NC 28202

704.336.5076
FAX 704.353.1202

Suspected Food borne Outbreaks / Restaurant, Lodging, Pool and Institutional Sanitation:

Food & Facilities Sanitation
Mecklenburg County Health Department
700 N. Tryon Street, Suite 208
Charlotte, NC 28202

704.336.5100
FAX 704.336.5306

WEST NILE VIRUS UPDATE- September 2004

West Nile virus causes an encephalitic disease in humans, birds, and certain mammals, particularly horses. Mild cases of the disease result in flu-like symptoms, while progressive forms of the disease affect various organs in the body including the brain. Fortunately, humans are substantially less inclined to develop disease. It is estimated that only about 1 in 5 persons exposed to the virus will develop any disease symptoms and most of those will be mild symptoms. About 1 in 150 people infected with WNV will develop severe illness. Deaths in humans occur at a rate of about 8% of those developing the more severe form of the disease.

Nationwide in 2003, over 9,800 human cases of WNV-associated disease or exposure were reported. Of these cases, 69% were classified as the milder WNV fever, 29% were classified as the more severe neurological conditions, and the remaining 2% were unspecified. Total number of reported human deaths from WNV in 2003 was 264. Although transmission of the disease is primarily by mosquitoes biting infected

birds and then biting humans, horses, etc., other rare transmission routes have been identified. Human cases associated with needle sticks, blood transfusions, organ transplants, and pregnancy have been identified over the last 2 years.

As of September 21 this year, 1,604 human cases of WNV-associated disease or exposure have been reported in the U.S. Geographically, WNV occurrence has continued its march westward. California and Arizona now report 54% of all 2004 cases.

North Carolina has reported 2 human cases of WNV in 2004 YTD. In 2003, during the same time period, North Carolina had reported 16 cases. In Mecklenburg County, 3 people were identified with WNV fever in 2003. As of September 28, 2004, Mecklenburg County has identified one human case of West Nile virus.

West Nile virus impact on human and animal health will continue to occur, but the level is unknown. Predictions in early 2004 by local and federal experts, that the season would be the "worst ever" have not been borne out so far. Many variables make these

predictions subject to being "conditional". Rainfall patterns, local bird population susceptibility to the virus, mosquito species variability, human behavioral changes, animal immunity to the disease, and virus variability, to mention just a few, can impact these predictions.

Two advances made since 2002 which are likely making a difference in the spread/impact of West Nile virus are the screening of the nation's donor blood supply and the introduction of a WNV vaccine for horses.

Effective community education and surveillance are two critical components which will likely determine how much this "emerged" disease pathogen will impact public health in the future. Although the human case count in 2004 seems to imply that many of the "right" things are being done, West Nile virus is a prime example that for this emerging pathogen, "luck has everything to do with it".

For more information, contact Dennis Salmen at 704.336.5554 or salmeda@co.mecklenburg.nc.us

New Health Director: Dr. Earl Winters Mabry



On September 1, 2004, Dr. Earl Winters (Wynn) Mabry was sworn in as interim Health

Director of the Mecklenburg County Health Department. Dr. Mabry, is a retired Major General in the USAF Medical Corps and is currently working as Homeland Security Director for Mecklenburg County, a position he has held since August 1, 2002.

During his 30-year Air Force career, Dr. Mabry served as a flight surgeon in fighter squadrons in Europe, as a surgical specialist at major USAF Medical Centers, and as a Commander of 5 military hospitals and medical centers, including Wright-Patterson Medical Center in Ohio and the Wilford Hall USAF Medical Center in San Antonio, Texas.

During wartime, he was Chief of Combat Casualty Evacuation Operations in Desert Shield-Desert Storm and Medical Support Commander for United Nations soldiers during the Bosnian conflict.

He received an undergraduate degree

from Dartmouth College, a Medical Doctorate from the University of Oklahoma, and surgical specialty training from the Duke University Medical Center.

As Homeland Security Director for Mecklenburg County, Dr. Mabry partners with the Charlotte Homeland Security Director and the Office of Emergency Management to coordinate and strengthen local emergency and mass casualty response.

Dr. Mabry can be contacted at 704.432.3199, FAX 704.432.0217 or mabryew@co.mecklenburg.nc.us.