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FALL 2015

Communicable Disease Update

Disease Detectives

MECKLENBURG COUNTY HEALTH DEPARTMENT

Mumps Outbreak 2015

Mumps Cases in the U.S.

Mumps is no longer very common in the United States, however, from year to year cases can range from a few hundred to a couple of thousand. For example in 2010, there were 2,612 cases, and in 2012, there were 229. Before the U.S. mumps vaccination program started in 1967, about 186,000 cases were reported each year. Since the pre-vaccination era, there has been a more than 99% decrease in mumps cases in the United States.

Mumps Outbreaks

Mumps outbreaks can occur at any time of year but are more common in the winter and spring. A major contributing factor is being in a crowded environment, such as attending the same classes, playing on the same sports team, or living in a dormitory with a person who has mumps.

MMR vaccine prevents most, but not all, cases of mumps and complications caused by the disease. Two doses of the vaccine are 88% (range: 66% to 95%) effective at protecting against mumps: one dose is 78% (range: 49% to 92%) effective. Outbreaks can still occur in highly vaccinated U.S. communities, particularly in close-contact settings. In recent years, outbreaks have occurred in schools, colleges, and camps. However, high vaccination coverage helps limit the size, duration, and spread of mumps outbreaks.

Ongoing mumps Outbreak at the University of Illinois

Around one hundred cases of mumps have been diagnosed since January 1, 2015 among students in Champaign County Illinois and all are connected with the University of Illinois Urbana-Champaign campus. Twenty-five cases had been diagnosed when the semester ended in the middle of May and Health Officials had hoped the outbreak would be over. However many students, including athletes, stayed on campus. Cases have been reported during the summer session which began on May 16, 2015 and recently ended on August 6, 2015. The state health department, Student Health Center and the Champaign-Urbana Public Health District all recommend that students get a booster shot for the MMR (measles, mumps, rubella) vaccine, even if those students already have received two immunizations. The state health director said most students were infected despite having been vaccinated on schedule. The health officials feel it is crucial for the university community to get the extra MMR vaccine to establish herd immunity, or enough people inoculated to stem the spread of the disease. So the CDC and the Illinois Department of Public Health recommend everyone in the community get a 3rd booster shot, which increases that immunity level to 95 percent.

Mecklenburg County Cases

Mecklenburg County has reported between 1 and 3 cases of mumps per year since 2011. In order for mumps to have a confirmed classification, the following criteria must be met:

A positive mumps laboratory confirmation for mumps virus with reverse transcription polymerase chain reaction (RT-PCR) or culture in a patient with an acute illness characterized by any of the following: Acute parotitis or other salivary gland swelling, lasting at least 2 days, aseptic meningitis, encephalitis, hearing loss, orchitis, oophoritis, mastitis, pancreatitis.

With previous contact with mumps virus either through vaccination (particularly with 2 doses) or natural infection, serum mumps IgM test results may be negative; immunoglobulin G (IgG) test results may be positive at initial blood draw; and viral detection in RT-PCR or culture may have low yield if the buccal swab is collected too long after parotitis onset.

Therefore, mumps cases should not be ruled out by negative laboratory results. Serologic tests should be interpreted with caution, as false positive and false negative results are possible with IgM tests.

For questions please contact Beth Quinn RN by calling 704-336-5398 or email elizabeth.quinn@mecklenburgcountync.gov.

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Visit us on the web at *www.meckhealth.org*

This periodical is written and distributed by the Communicable Disease Program of the Mecklenburg County Health Department for the purpose of updating the medical community in the activities of Communicable Disease Control.

Freda Grant, Beth Quinn
Editors

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Viral Suppression and The HIV Treatment Cascade

Two major studies have confirmed that antiretroviral treatment (ART) can significantly reduce the transmission of HIV. The first study, HPTN 052, looked primarily at heterosexual couples of mixed HIV status and found that ART reduced transmission by 96 percent. The newer PARTNER study included heterosexual and gay serodiscordant couples where the HIV-positive participants were all on ART and had a viral load below 200. None of the HIV-negative partners could be on pre- or post-exposure antiretroviral prophylaxis (PrEP or PEP). The interim analysis of the PARTNER study revealed there were no transmissions between couples where the HIV positive partner had an undetectable viral load. An estimated 50 to 100 transmissions would be expected if no one in the study had taken antiretroviral drugs.

The researchers estimated that the average real-world risk reduction as a result of an undetectable viral load would be 95%. When the study was presented at the Conference on Retroviruses and Opportunistic Infections in March 2014, Dr. Jens Lundgren, chief physician and director of the Copenhagen HIV Programme, estimated that it is likely that the chance of transmitting HIV with an undetectable viral load is closer to zero, or perhaps even zero. The greatest opportunities for increasing the percentage of persons with a suppressed viral load are through early diagnosis and treatment and retention in care.

The HIV Treatment Cascade is a model now in use by Federal, state and local agencies to monitor the number of individuals living with HIV who are actually receiving needed medical treatment and care. The CDC estimates that only 28 percent of those living with HIV are in care and on the medications needed to manage their disease and suppress the virus. Each step of the cascade shows a significant decline in the number of persons moving through the continuum of care, with only a minority of persons achieving suppression of their viral infection. This system recognizes that when people are involved in their care and engaged in antiretroviral therapy, the amount of virus in their bodies can be reduced to undetectable levels, making it significantly less likely that HIV will be transmitted to others.

There are 5 steps or stages of the HIV Treatment Cascade.

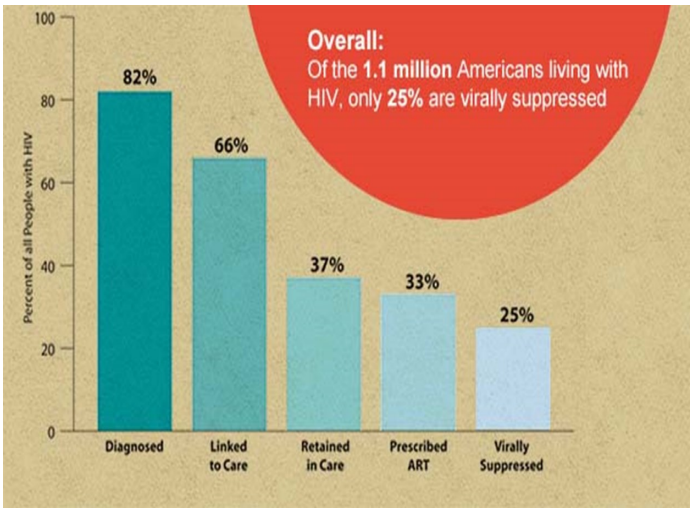
Testing and diagnosis - This is the entry point to the continuum of care. Early diagnosis of HIV infection is critical to timely intervention toward viral suppression.

Linkage to care – Access to medical care enables persons living with HIV to get the medications and prevention services that will enable them to stay healthy and protect partners.

Retention in care - Treatment is a lifelong process requiring regular HIV medical care and adherence to treatment plans. This step shows the largest "fall-off" in the cascade.

Antiretroviral therapy – The CDC recommends treatment with antiretroviral drugs as soon as possible for everyone with HIV regardless of viral load

Achieving viral suppression – Enables those living with HIV to live a healthy life and significantly reduces the transmission of the virus to others.



State and local health departments are able to use the cascade to determine care and treatment needs along the continuum of care, identify disparities in care, and focus resources and public health interventions. Recommendations from the CDC for health care providers and community based organizations include:

- Testing patients for HIV as a regular part of medical care
- Counseling patients who do not have HIV on prevention
- Early initiation of ART at all disease stages

Counseling patients on the benefits of adherence to ART for achieving viral suppression

The HIV Treatment Cascade shows clearly that intensified efforts are needed along the entire continuum of care if we are to realize the potential of viral suppression to significantly reduce the transmission of HIV.

For more information: Call Linda Flanagan, Health Manager 980-314-9307

Resources:
www.cdc.gov
www.AIDS.gov

World Health Organization (WHO) Approval of Rapid Test for Ebola

In February 2015, The World Health Organization (WHO), approved the first rapid test to screen for the Ebola virus in the countries most affected by this disease.

The ReEBOV Antigen Rapid Test Kit can provide results within 15 minutes. The ReEBOV detects the Ebola protein rather than nucleic acid. The current nucleic acid test, which are currently being used in Ebola outbreak countries, are more accurate, but average anywhere from 12 to 24 hours to result out.

The ReEBOV Antigen Rapid test was evaluated by WHO's Emergency Assessment and Use, and was able to correctly identify 92% of Ebola infected patients and 85% of those not infected with the virus. The ReEBOV is easily performed and does not require electricity, therefore able to be used in more remote areas. The WHO does stress though that that any reactive ReEBOV test should be confirmed with a nucleic acid test when possible.

Mecklenburg County Health Department Communicable Disease Nurses monitor all travelers from Ebola affected countries for 21 days after arrival in the United States. Monitoring includes an initial home visit, observation of the traveler taking their temperature, and educating the traveler on signs and symptoms of the Ebola virus. All travelers are informed of the 24/7 Communicable Disease phone number in case they become ill during the 21 day monitoring period. Since October 2014, Mecklenburg County has monitored 257 travelers.

References: *http://www.who.int1st_antigen_RT_Ebola/en/*

If you have questions contact Brian Lackey, 704.336.5498.

Ebola Vaccine

Sierra Leone:

A Study called the Sierra Leone Trial to Introduce a Vaccine against Ebola (STRIVE), plans to assess the safety and efficacy of a candidate Ebola vaccine (rVSV-ZEBOV) among health and other frontline workers.

Working together The Centers for Disease Control and Prevention (CDC), Sierra Leone College of Medicine and Allied Health Sciences (COMAHS), along with the Sierra Leone Ministry of Health and Sanitation (MoHS), launched an Ebola vaccine trial in Sierra Leone that started in April 2015.

Guinea:

March 2015 the Guinean Government with the World Health Organization (WHO) initiated the very first efficacy trial of an Ebola vaccine. This vaccine is being tested in the affected community of the Basse-Guinée, one of the areas where most Ebola cases are found in the country. Ring vaccination tests of VSV-EBOV, a lead Ebola vaccine developed by the Public Health Agency of Canada, received an excellent response from the community in a small village in the Coyah prefecture.

As stated by Dr. Jean-Marie Dangou WHO Representative in Guinea, "The start of ring vaccination clinical testing in Guinea is therefore one of the most important milestones we have achieved in seeking a modern line of defense against Ebola."

Vaccines were given to contacts of recently infected people who gave consent in a village of the Coyah prefecture.

At this time the vaccines will be given only to adults, who are most at risk of infection, with the exception of pregnant women.

The ring vaccination strategy consists in identifying recently infected patients and vaccinating all their contacts, thereby creating a 'ring of immunity' around them to stop the virus from spreading.

"This very same strategy was a key contribution to eradicating smallpox in the 1970's, and allows us to vaccinate all those at greatest risk," explained WHO Coordinator for the Guinea Vaccine Trial, Dr. Ana Maria Henao Restrepo.

Outcome of Ebola vaccine trial:

Results from STRIVE study indicated that the vaccine was highly effective against Ebola. At this time, the vaccine shows 100% in individuals, however more conclusive evidence is needed for protecting populations through "herd immunity."

Statistical Report:

In the week of September 13, there were 5 confirmed cases all of which were in Sierra Leone. Liberia has continue to remain free of Ebola virus.

If you have questions contact Freda Grant, 704.336.6436 or Taleba Parris at 704.432.4667.

Welcome to Communicable Disease

Julie Secrest AKA Julie Blanton moved to Charlotte to go to UNCC. After graduation she worked at Gaston Memorial Hospital in Med/Surg in order to pursue a job in Public Health. In 1990 she came to Mecklenburg County Department where she worked 3 years in the Home Health Program, then part time in the Women's Health Program managing pap smear follow up and starting a Colposcopy clinic. In 1995, part of Public Health transitioned to CHS where Julie worked in Family Planning and STD Clinic. Her favorite duties included answering the Advice Line for many years and being a preceptor to BSN nursing students. Julie transition back to Mecklenburg County two years ago accepting a full time job in Communicable Disease in January 2015.

NC Electronic Disease Surveillance System

NC EDSS EVENT ID# _____

North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch

Confidential Communicable Disease Report—Part 1

NC DISEASE CODE
(see reverse side for code)

ATTENTION HEALTH CARE PROVIDERS:

Please report relevant clinical findings about this disease event to the local health department.

Mecklenburg County Health Department
700 North Tryon Street, Suite 214
Charlotte, NC 28202

Tuberculosis:
Call 980-314-9470 FAX 704-432-2493

Syphilis & HIV/AIDS:
Call 704-336-3349 or 704-614-2993 FAX 704-336-6200
All other STDs: Call 704-432-1742 FAX 704-336-6200

All Other Reportable Diseases:
Call 704-336-2817 FAX 704-353-1202

Patient's Last Name | First | Middle | Suffix | Maiden/Other | Alias

Birthdate *(mm/dd/yyyy)* | Sex ☐ M ☐ F ☐ Trans. | Parent or Guardian *(of minors)* | Patient Identifier | SSN

Patient's Street Address | City | State | ZIP | County | Phone (____) ____-_____

Age _____ | Age Type ☐ Years ☐ Months ☐ Weeks ☐ Days

Race (check all that apply): ☐ White ☐ Black/African American ☐ American Indian/Alaska Native ☐ Native Hawaiian or Pacific Islander ☐ Asian ☐ Other ☐ Unknown

Ethnic Origin ☐ Hispanic ☐ Non-Hispanic

Was patient hospitalized for this disease? (>24 hours) ☐ Yes ☐ No

Did patient die from this disease? ☐ Yes ☐ No

Is the patient pregnant? ☐ Yes ☐ No

Patient is associated with (check all that apply):
- ☐ Child Care (child, household contact, or worker in child care)
- ☐ School (student or worker)
- ☐ College/University (student or worker)
- ☐ Food Service (food worker)
- ☐ Health Care (health care worker)
- ☐ Correctional Facility (inmate or worker)
- ☐ Long Term Care Facility (resident or worker)
- ☐ Military (active military, dependent, or recent retiree)
- ☐ Travel (outside continental United States in last 30 days)

In what geographic location was the patient MOST LIKELY exposed?
- ☐ In patient's county of residence
- ☐ Outside county, but within NC - County: _____
- ☐ Out of state - State/Territory: _____
- ☐ Out of USA - Country: _____
- ☐ Unknown

CLINICAL INFORMATION

Is/was patient symptomatic for this disease? ☐ Y ☐ N ☐ U

If yes, symptom onset date (mm/dd/yyyy): __/__/____

SPECIFY SYMPTOMS:

If a sexually transmitted disease, give specific treatment details:

1. Date patient treated: (mm/dd/yyyy) _____
   Medication _____
   Dosage _____
   Duration _____
2. Date patient treated: (mm/dd/yyyy) _____
   Medication _____
   Dosage _____
   Duration _____

DIAGNOSTIC TESTING

Provide lab information below OR attach a copy of lab results.

Specimen Date	Specimen #	Specimen Source	Type of Test	Test Result(s)	Description (comments)	Result Date	Lab Name—City/State
/ /						/ /	
/ /						/ /	
/ /						/ /	

Reporting Physician/Practice: _____

Contact Person/Title: _____

Phone: (____) ____-_____ Fax: (____) ____-_____

Health Care Provider for this disease (if not reporting physician): _____

Contact Person/Title: _____

Phone: (____) ____-_____ Fax: (____) ____-_____

LOCAL HEALTH DEPARTMENT USE ONLY

Initial Date of Report to Public Health: ___/___/_____

Initial Source of Report to Public Health:
- ☐ Health Care Provider (specify):
  - ☐ Hospital
  - ☐ Private clinic/practice
  - ☐ Health Department
  - ☐ Correctional facility
- ☐ Laboratory
- ☐ Other

Is the patient part of an outbreak of this disease? ☐ Yes ☐ No

Outbreak setting:
- ☐ Restaurant/Retail (name): _____
- ☐ Household (specify index case): _____
- ☐ Child Care (name): _____
- ☐ Other (specify): _____
- ☐ Community (specify index case): _____

DHHS 2124 (Revised January 2009) EPIDEMIOLOGY

Reporting Communicable Diseases – Mecklenburg County

To request N.C. Communicable Disease Report Forms, telephone 704.336.2817

Mark all correspondence "CONFIDENTIAL"

Tuberculosis:

TB Clinic		980.314.9470
Mecklenburg County Health Department	FAX	704.432.2493
2845 Beatties Ford Road		
Charlotte, NC 28216		

Sexually Transmitted Diseases, HIV, & AIDS:

Syphilis and HIV/AIDS Reporting	704.336.3349	or	704.614.2993
Other STD Reporting			704.432.1742
Mecklenburg County Health Department		FAX	704.336.6200
700 N. Tryon Street, Suite 214			
Charlotte, NC 28202			

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

Report to any of the following nurses:

Freda Grant, RN		704.336.6436
Elizabeth Quinn, RN		704.336.5398
Belinda Worsham, RN		704.336.5490
Brian Lackey, RN		704.336-5498
Penny Moore, RN		704.353.1270
Shawn Wilson, RN (CD/Child Care)		704.432-1975
Taleba Parris, RN		704.432.4667
Julie Secrest, RN		704.432.0069
Communicable Disease Control	FAX	704.353.1202
Mecklenburg County Health Department		
700 N. Tryon Street, Suite 271		
Charlotte, NC 28202		
Public Health Emergency 24/7 on call		704.432.0871

Animal Bite Consultation / Zoonoses / Rabies Prevention:

Jose Pena		704.336.6440
Communicable Disease Control	FAX	704.432.6708
Mecklenburg County Health Department		
700 N. Tryon Street, Suite 214		
Charlotte, NC 28202		
State Veterinarian		919.733.3410
State after hours		919.733.3419

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

Food & Facilities Sanitation	(Mon-Fri)	704.336.5100
Mecklenburg County Health Department	(evenings; Sat/Sun)	704.432.1054
700 N. Tryon Street, Suite 208	(pager evenings; Sat/Sun)	704.580.0666
Charlotte, NC 28202	FAX	704.336.5306

Mecklenburg County Health Department

Revised 8-12-2015