

# Epi Notes



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## IN THIS ISSUE:

Hazardous Substance Emergency Events Surveillance HSEES .....	1
Charlotte Area Named a Ryan White Part A Transitional Grant Area .....	2
Surveillance for Severe, Invasive Community-Associated Methicillin Resistant <i>Staphylococcus aureus</i> (siCA-MRSA) in North Carolina. ....	3
N.C. State Laboratory of Public Health Chemical Terrorism Lab Update .....	4
Lessons Learned for Worst Case Scenarios: A Review of 2006 Exercises .....	4
Meet the Bioterrorism and Emerging Pathogens Unit.....	6
Naturally Occurring Asbestos (NOA) in North Carolina .....	7
Training and Continuing Education Credit Opportunity .....	8
Measles Cases in Guilford County .....	8
Get Real, Get Tested, Update #2 Raleigh and Durham.....	9
Reported Communicable Disease Cases, N.C., January-March 2007 .....	10
Update on the N.C. Electronic Disease Surveillance System (NC EDSS) .....	11
Employee Recognition: Margot Corrigan Employee of the Quarter .....	11

## Hazardous Substance Emergency Events Surveillance HSEES

*Prepared by Sherry G. Rigouard, MPH, Epidemiologist, Occupational and Environmental Epidemiology Branch*

The North Carolina Hazardous Substances Emergency Events Surveillance (NC HSEES) Program is an active, state-based surveillance system used to describe the public health consequences associated with the release of hazardous substances (chemical and biological). NC HSEES is supported by a grant from the Agency for Toxic Substances and Disease Registry (ATSDR). North Carolina is one of 15 states in the program. Data is collected for uncontrolled or illegal acute releases or threatened releases of any hazardous substance (excluding petroleum) in any amount for substances listed on the HSEES Mandatory Chemical Reporting List. For substances not on the list, events are included if the amount released or threatened to be released is 10 or more pounds or one or more gallons. A threatened release is included only when an action (e.g., evacuation) is taken to protect public health. A substance is considered hazardous if it might reasonably be expected to cause adverse human health effects.

The objectives of the HSEES program are to reduce morbidity and mortality of employees, responders, and the general public as a result of hazardous substances releases; identify factors associated with morbidity and mortality from the releases; and identify or develop prevention strategies that may reduce or prevent future morbidity and mortality associated with hazardous substances emergency events.

Hazardous substances emergency events are reported to the NC HSEES by several sources including: the NC Division of Emergency Management; the National Response Center; the Hazardous Materials Information System; the NC State Bureau of Investigation; and the media. Additional information is collected

*(continued on page 2)*

## Charlotte Area Named a Ryan White Part A Transitional Grant Area

*Prepared by Stephania Sidberry, Public Health Program Consultant, HIV/STD Prevention and Care Branch*

The Charlotte area has been named a Part A (formerly called Title I) Transitional Grant Area (TGA) under the Ryan White HIV/AIDS Treatment Modernization Act, which means a significant increase in funding for the area.

The Charlotte TGA includes Anson, Cabarrus, Gaston, Mecklenburg, and Union in North Carolina. The TGA also includes York County, South Carolina. The Mecklenburg County Health Department is coordinating the grant. The HIV/STD Prevention and Care Branch, which administers the Part B (formerly Title II) of the CARE Act, has worked closely with the Charlotte TGA to assist it in planning for the new funds.

In response to the evolving AIDS epidemic, Congress enacted the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act in 1990 to improve the quality of and access to care for uninsured and underinsured individuals and families affected by HIV disease. The CARE Act was reauthorized in 1996 and 2000. The formal name changed to the Ryan White HIV/AIDS Treatment Modernization Act with the reauthorization in 2006. Part A of the Act provides funding directly to TGAs and Eligible Metropolitan Areas (EMAs).

To be eligible for Part A, an area must have reported at least 1,000, but not more than 1,999 cumulative AIDS cases during the most recent five years **and a population of 50,000** or more.. Part A grants are awarded to the chief elected official of the city or county that provides health care services to the greatest number of people living with AIDS in the TGA/EMA.

For years, the Charlotte area was an Emerging Community funded under Title II of the Ryan White CARE Act. Emerging Communities are areas that report between 500 and 1,999 AIDS cases in the most recent five years. Because of the increase in the number of AIDS cases, the Charlotte area transitioned into a Part A TGA.

The additional funds will be used to expand primary medical and dental care and support services to people living with HIV/AIDS in the region. It will also increase funding for

counseling and testing so individuals will learn their status and get into treatment sooner, ultimately saving more lives. This is a wonderful opportunity for the Charlotte area to significantly increase available services, reach more people and truly achieve a continuum of care.

The Branch is pleased that this additional money has come to North Carolina and looks forward to continuing a close partnership with the Charlotte TGA to provide the best possible care and support to eligible North Carolinians living with HIV/AIDS. ♦

*(Hazardous Substance, continued from page 1)*

during telephone interviews conducted with emergency responders, including local emergency management coordinators, firefighters, hazardous materials team responders, and environmental affairs representatives in private industry.

During 2004-2005, there were 696 events investigated and entered into the web-based surveillance system. Of these events, 365 (52.4%) were at fixed facilities and 331 (47.6%) were transportation events. Causal factors for each release are collected. Human error remains the leading primary factor, while improper filling or loading remains the leading secondary factor in the cause of release. Most transportation events are ground transportation (92.1%). Rail transportation makes up 7.3% of transportation events and less than one percent of the events are water or air transportation.

More than 1,100 chemicals were released in these 696 events. Chemicals are grouped by category for reporting. Chemical categories are shown in Table One. Evacuations were ordered in 44 (6.3%) of 696 events. The number of people evacuated was known for 38 (86.4%) events and ranged from 1 to 750 people, with a median of 59 people. Three (0.4%) events had in-place sheltering ordered by an official.

These 696 events resulted in 169 victims. Victims are defined as individuals who experience injuries or report symptoms or go to a health care facility within 24 hours of the event. The most frequently reported injuries were respiratory irritation, dizziness or central nervous system symptoms, headache, gastrointestinal system problems, and thermal burns. Most victims were treated and released from a hospital or were treated with first aid on scene, however,

*(continued on page 3)*

(Hazardous Substance, continued from page 2)

there were 12 hospital admissions and one death associated with these events.

Prevention outreach is an important part of the NC HSEES program. Each year four prevention outreach activities are completed and evaluated for effectiveness. Past activities include: fact sheets for chemicals that cause the most injuries to people, a brochure for first responders to increase awareness of chemical dangers present at illegal methamphetamine laboratories, a brochure about the dangers of carbon monoxide, and multiple presentations to local emergency planning committees (LEPCs), responder groups and others. Presentations made to LEPCs help them develop their own prevention strategies as well as get a snapshot of the events in their county. Presentations are made at national meetings on topics where outreach may help prevent future releases or prevent injury or illness from releases. Topics presented at national meetings included *HSEES Awareness, Fires and Explosions, Ammonia Releases in the Meat Industry*. An upcoming outreach effort will target responders, because data show a high number of injuries among responders who also report personal protective equipment use.

More information about the HSEES program and program publications are available at the web site, <http://www.epi.state.nc.us/epi/oii/hsees.html>. ♦

Table One

Chemical Category	Number
Acids	156
Ammonia	43
Bases	110
Chlorine	15
Formulations	1
Hetero-organics	8
Hydrocarbons	5
Mixtures	47
Other	120
Other Inorganics	200
Oxy-organics	54
Paints	53
Pesticides	32
Polychlorinated Biphenyls	14
Polymers	55
Volatile Organic Compounds	240
<b>Total</b>	<b>1153</b>

## Surveillance for Severe, Invasive Community-Associated Methicillin Resistant *Staphylococcus aureus* (siCA-MRSA) in North Carolina

Prepared by Zack S. Moore, MD, MPH, Epidemic Intelligence Service Officer, General Communicable Disease Control Branch

Since the mid-1990's, community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) has emerged as a significant cause of morbidity and mortality in the United States. A study conducted in 2004 found that MRSA has become the leading identifiable cause of skin and soft tissue infections nationwide among adults presenting to the emergency department.<sup>1</sup> Outbreaks of skin and soft tissue infections have become increasingly common in a variety of settings characterized by sharing of contaminated items or crowding. Invasive disease due to CA-MRSA has also increased, due in part to the increased toxin production and virulence of community-associated strains.

MRSA is not a reportable disease in North Carolina. Outbreaks are reportable, but are likely under-reported. Prior to 2005, there were no state-level data on MRSA infections in North Carolina. The siCA-MRSA surveillance system was created to address this need. This surveillance system collects data on patients who have MRSA isolated from a normally sterile site and have no established risk factors for healthcare-associated MRSA. Established risk factors include previous cultures positive for MRSA; initial isolation from cultures collected >48 hours after admission; presence of an invasive device at the time of initial evaluation; and hospitalization, surgery, or dialysis within one year of the index culture.

The siCA-MRSA system is intended to meet the following goals: Quantify the burden of severe, invasive CA-MRSA in North Carolina; monitor trends in the incidence of CA-MRSA; and facilitate targeting of public health interventions by identifying high risk populations and monitoring changes in antimicrobial susceptibility patterns. Surveillance is conducted through the hospital-based Public Health Epidemiologist Program. Public Health Epidemiologists (PHEs) are located in the flagship hospitals of each of the state's eleven largest hospital systems. The PHEs serve as liaisons between clinicians and public health officials and also conduct sentinel surveillance for a variety of conditions, including siCA-MRSA. For siCA-MRSA surveillance,

(continued on page 6)

## N.C. State Laboratory of Public Health Chemical Terrorism Lab Update

*Prepared by Kay Flood, CT Coordinator, N.C. State Laboratory of Public Health*

There are currently three levels of state Chemical Terrorism (CT) laboratories within the national Laboratory Response Network (LRN). Level 1 laboratories serve as surge capacity for CDC and help with research and perform a wide range of analytical tests. Level 2 laboratories are capable of analysis of several analytical tests but are more limited than a Level 1. Level 3 laboratories do not perform any analytical testing, but they do collect, package and ship specimens to other LRN laboratories. CDC is the highest level laboratory in the LRN structure for Chemical Terrorism response. The N.C. State Laboratory of Public Health (NCSLPH) CT laboratory is classified as a Level 2 LRN laboratory. As part of the LRN, the NCSLPH CT laboratory is required to participate and pass three PT challenges per year for each method in order to remain qualified. In addition, CDC conducts surprise PT challenges which have a 24 hour turn-around-time to test the laboratory's ability to respond quickly to a chemical agent event or accident. These pop PT challenges count toward qualification and must also be passed by the lab. The NCSLPH will be able to serve as surge capacity for all methods currently released to Level 2 laboratories. In the event of a chemical agent release, NCSLPH CT personnel will be available 24/7 for response. The CT Lab has four staff members: one manager/coordinator, one chemist III and two chemist II positions. In 2005 the CT laboratory began with two methods: the analysis of urine for 12 elements of interest by Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) and the analysis of cyanide in blood by Gas Chromatography/Mass Spectrometry (GC/MS). Additional methods have been added each year via federal preparedness funding. The NCSLPH CT lab can analyze organophosphate nerve agent metabolites in urine by Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS); arsenic and selenium in urine by ICP/MS; and cadmium, mercury and lead in blood by ICP/MS.

Recently, CT staff members have been trained in both methodology and instrumentation for volatile organic compounds (VOCs) in blood and ricinine/abrine in urine. They will add these methods as soon as required method validation and proficiency testing (PT) are completed. Ricinine is a biomarker for exposure to ricin toxin and abrine is a biomarker for exposure to abrin toxin. Ricin comes

from the castor bean plant and abrin (more toxic than ricin) comes from the rosary pea plant. The chemists in the CT Unit have been privileged to receive excellent training not only on methodology, but on instrumentation, theory, and operation, either by the CDC's CT technology transfer personnel or by other world-renowned chemists. CDC plans to add speciation for elements of interest such as arsenic, chromium and mercury as well as sulfur mustard metabolites within the next year. ♦

Matrix	Analyte	Heavy Metals (12)	CN	Cd/Hg/Pb	Ar/Se	VOC	Organophosphate Nerve Agent	Ricinine /Abrine
Blood		√	√	√		√		
Urine					√		√	√

## Lessons Learned for Worst Case Scenarios: A Review of 2006 Exercises

*Prepared by Phillip Benson, MPH MEP, Planner/Evaluator, Office of Public Health Preparedness and Response*



Someone once said that experience is the ultimate teacher. Unfortunately in a world where bad things happen to good people, learning lessons from a pandemic influenza or a lethal nerve agent attack are not what anyone would want to experience. Therefore drills, tabletop discussions, functional exercises and the like, play a very important

role in teaching others how to prepare for worst case scenarios without the risk associated to the real event.

During 2006 the N.C. Division of Public Health (DPH) participated in at least four series of exercises in which we can garner lessons learned. Though conducted by Florida Department of Health, "2006 Bio-Shield Exercise", included representatives from N.C. DPH and the Regional Pharmacists to observe the decision to request, receive, distribute and dispense meds from the Strategic National Stockpile (SNS) for mass dispensing following an anthrax attack in several metropolitan regions. "Eight-Ball Pandemic Influenza Desktop Drills" were hosted by N.C. Office of Emergency Medical Services (OEMS) for eight web-based conference call facilitated discussions. N.C. DPH, local health departments, and other partners participated with local and regional hospitals. "CIPHER Desktop Drill and Functional Exercise Series" was hosted by N.C. Emergency Management, NC OEMS, and NC DPH in a multi-county region

*(continued on page 5)*

*(Lessons Learned, continued from page 4)*

of the state. These pandemic influenza exercises focused upon decision-making and policy groups as well as logistic challenges in obtaining sufficient medical supplies. Finally, “Summer Squeeze Exercise Series” was a NC DPH hosted tabletop exercise and two warehouse drills for request and receipt of SNS assets to North Carolina; and three tabletop exercises followed by a full deployment of CHEMPACK, the use of federally funded nerve agent antidotes stored in local caches throughout the state as assets to be used in event of a nerve agent attack or chemical accident.

**Lesson One: Always maintain multiple communication systems.** During “2006 Bio-Shield Exercise” we observed a communication trailer with its own satellite receiver, PC and communication router, and gasoline generator that accompanied a regional Information Technology (IT) team that provided wireless network capability and Internet access from a receipt, storage and staging (RSS) warehouse that had little more than electrical infrastructure. Handheld radios assisted the National Guard teams as they unloaded the SNS and later Vender Managed Inventory supplies; handhelds were also valuable at the large arena for talking between various stations in the drive-through clinic to enhance operations.

**Lesson Two: Family care plans need to be developed and set in the employment file of each staff members.** During “CIPHER Pandemic Influenza Exercises” it was recognized that in order for the health care system to provide the staffing it would need, the family members of these staff members needed a family care plan. Following this recommendation the Disaster Preparedness Planning Template was developed by members of the N.C. Department of Health and Human Services Disaster Coordination Group for DHHS employees and the public: <http://www.dhhs.state.nc.us/panflu/index.htm>

**Lesson Three: Involve law enforcement and security resources in planning for a pandemic influenza.** “CIPHER PF Exercise” recommended plans and exercises to expand and deploy law enforcement and security resources to protect the health care and public health location and supplies, especially vaccine/medication/medical inventory. Following this recommendation, Brant Goode, State Pandemic Influenza Coordinator, and contractor will provide three regional tabletop exercises for state and local law enforcement agencies during the first quarter of 2007.

Additional lessons learned from “CIPHER PF Exercises” included the use of technology solutions such as the hand held information system and the CT Connect announcement system as joint effort between the Departments of Emergency Management and Public Health. These systems, if found valuable, could be standardized throughout the state. A need exists to have electronic laboratory reporting systems. That public health has not achieved training on Incident Command at all levels of state and local support. And the need for a robust public health information network as the counter measure response to pan flu for administration-tracking who has received vaccine. The NC DPH Immunization Branch is currently expanding its database tracking system to enhance data gathering during a major outbreak and need for mass vaccinations.

**Lesson Four: Use warehouse trained volunteers to successfully off-load, position and prepare for distribution to local receiving sites.** During two warehouse drills of “Operation Summer Squeeze” to test RSS functions of off-loading Strategic National Stockpile assets, Just-In-Time Training was combined with activation of pre-trained warehouse volunteers from two school systems. This approach worked exceptionally well during simulation of this event. These workers can be counted upon to free up the public health workforce to concentrate on their preparations for mass dispensing or vaccination clinics.

A related lesson from the Public Health Coordination Center’s (PHCC) involvement in requesting and planning for distribution of SNS assets is the need for more staffing. Following this recommendation a new module for Personnel Tracking is being beta tested by NC Office of Public Health Preparedness and Response to allow Division of Public Health section supervisors to log on to an Internet-based system and indicate the level of ICS training each of their available staff has completed and which shifts these staff members could assist in operations of the PHCC – remotely from their offices as call-takers or in the Planning and Operations Sections as subject matter experts.

During the course of these exercises there were many lessons learned, a number of ideas tossed around, and recognition of changes to be made on multiple levels. It is important to remember that training contributes to organizations, agencies, jurisdictions, etc., working smoothly in the event of a true disaster, and that training is a necessary tool in a continually evolving world. ♦

## Meet the Bioterrorism and Emerging Pathogens Unit

Prepared by Royden Saah, BTEP Unit Supervisor, N.C. State Laboratory of Public Health

The Bioterrorism and Emerging Pathogens (BTEP) Unit began in 1999 when the NC State Laboratory of Public Health (NCSLPH) was awarded CDC funding to become a member of the Laboratory Response Network (LRN). With the federal preparedness funding came the responsibility to build the capacity to confirm or rule out the presence of threat agents such as *Bacillus anthracis* or *Yersinia pestis*. The NCSLPH began construction of a Biosafety Level 3 (BSL3) laboratory by renovating space within the existing Bath Building facility. The renovation was completed in the summer of 2001. A separate modular BSL-3 laboratory was completed and certified in 2006. The mission of the BTEP Unit is to maintain laboratory capacity for the detection of biological weapons and emerging infectious diseases and to act in a manner that strengthens the crisis response within the Division of Public Health.

Originally, the small number of BTEP staff was part of the Microbiology Unit, but as the staff size grew following events of 9/11 and Amerithrax, BTEP became its own Unit. The BTEP Unit currently includes four facilities under the authority of the NC State Laboratory of Public Health (NCSLPH). The BTEP Unit employs one Unit Supervisor, one PhD level Scientist, one Training Coordinator, five Laboratory Medical Specialists, four Medical Laboratory Technologists, and an Administrative Assistant shared with the Chemical Terrorism Unit. The NCSLPH is the duty station for the majority of the staff, with one Specialist and one Technologist at each of the three NC Regional Response Laboratories (RRLs) located in Pitt, Buncombe and Mecklenburg Counties. The primary objective of all the facilities is to conduct LRN deployed assays.

The overall capabilities of the BTEP unit include confirming the following agents from clinical or environmental samples:

- *Bacillus anthracis*
- *Yersinia pestis*
- *Francisella tularensis*
- *Burkholderia mallei* and *B. pseudomallei*

The BTEP Unit also has the ability to identify at the “preliminary” level the following agents:

- *Coxiella burnetii*
- *Brucella* spp.
- Orthopox virus
- Variola virus
- *Varicella Zoster* virus
- Influenza H5 (Asian lineage)
- Staphylococcal enterotoxin B

- *Ricinus communis* toxin and DNA
- *Clostridium botulinum* toxin (environmental only)

Each of the three RRLs is at a different stage of reaching these capacities. The RRL-Buncombe is currently capable of testing for the presence of *B. anthracis* in human specimens. The RRL-Mecklenburg has the ability to test for the H5 strain of the influenza virus. RRL-Pitt has both of these capabilities, as well as the ability to test for *Y. pestis*, *F. tularensis*, *Brucella* spp., and *Burkholderia (pseudo)mallei*. Tremendous efforts have been made by BTEP staff to build and expand laboratory capacity at each facility. We have set a target date of early May 2007 to have all facilities at full capacity, a momentous occasion for the state of North Carolina in its preparedness efforts. ♦

(*siCA-MRSA*, continued from page 3)

PHEs collect demographic, clinical, and microbiologic information for each case identified. Bacterial isolates are also collected for molecular testing.

*siCA-MRSA* data collection began in January 2005. A total of 95 cases were reported from January 2005–December 2006, with a median of four cases per month (range 0-12). No temporal trends were detected. Patients had a median age of 41 years (range 1 day–88 years); one-third were <25 years of age. Eighty-one percent of patients had at least one underlying condition, with diabetes being the most frequent (18% of patients). *MRSA* was most commonly isolated from blood (65% of cases). The most common focal invasive infections were pneumonia (15%), septic arthritis (9%), and bursitis (7%). Eighty-five patients (90%) were hospitalized, and 5 (5%) died from their illness. All isolates were susceptible to vancomycin, and 99% were susceptible to trimethoprim-sulfamethoxazole. Eighty-seven percent of isolates were susceptible to clindamycin, although inducible resistance was not reported.

Surveillance for *siCA-MRSA* is ongoing. We are currently considering an expansion of the system to include all patients with invasive *MRSA* regardless of risk factors for healthcare-associated *MRSA*. For more information about this surveillance system, please contact the General Communicable Disease Control Branch at (919) 733-3419. ♦

*I. Moran GJ, Krishnadasan A, Gorwitz RJ et al. MRSA among Patients in the Emergency Department. New Engl J Med. 2006;355(7):666-74.*

## **Naturally Occurring Asbestos (NOA) in North Carolina**

*Prepared by Jeffery W. Dellinger, Industrial Hygiene Consultant, Health Hazards Control Unit, Occupational and Environmental Epidemiology Branch*

Asbestos, a naturally occurring mineral, is known for its chemical resistance and insulation properties. There was a large demand for this mineral at the beginning of World War II followed by a steep decline in the mid 1970's, and a partial ban by the Environmental Protection Agency (EPA) for its use in the United States between the late 1980's and early 1990's. The mineral fell out of favor because it is known to cause serious disease including lung cancer, asbestosis and mesothelioma. Asbestos is found in certain rock formations. This naturally occurring asbestos may be a source of exposure to persons who live in close proximity to them. Several states and federal agencies are studying potential human sources of exposure to Natural Occurring Asbestos (NOA). They are trying to determine if there is an increased risk of asbestos-related diseases for people living near or on deposits of NOA. The concern is whether NOA that is exposed by natural weatherization or disturbed by development poses a health risk.

Since there is no market for the asbestos mineral in the United States, and the mining of other commercial minerals which may have asbestos present are regulated by various state and federal mining requirements, one has to ask: Is there a problem with NOA in North Carolina? The answer is not that simple. More people are moving west into what was once an undeveloped part of North Carolina, where there are NOA deposits. Over the past 25 years, development has increased, which has accelerated erosion due to the removal of trees and other natural vegetation. More people now live near NOA deposits.

The United States Geological Survey (USGS) has identified 46 NOA locations in western North Carolina that are classified as either a mine, a prospect, or out cropping. Out of the six types of asbestos, the two most common types that were actively mined in North Carolina are Anthophyllite and Chrysotile. Asbestos forms in the ultramafic rock and can be found in tension fractures. This serpentine rock is host to many commercial grade minerals such as talc, olivine, corundum, chromite and sapphires. Though most NOA is located in the western third of the state, bodies of NOA may be located in other parts of our state.

The current trend of people moving to areas with NOA may be an emerging issue to North Carolina but it is not a new issue in other parts of the United States. For example, Virginia has been addressing this issue for years as it cut roads through natural deposits of olivine where NOA is present. Virginia has also provided guidance for the control and prevention of asbestos exposure from construction in areas identified to have NOA.

California has also provided guidance for various construction trades, schools and home owners who live near or on NOA deposits and has set restrictions for visiting certain recreational parks during the dry season to reduce potential public exposure to asbestos fibers. The issue of NOA has now received enough national attention that the Agency for Toxic Substances and Disease Registry (ATSDR), which has made several guidance documents available to the public.

Several North Carolina agencies are investigating the issue of NOA and potential sources of exposure. The information that is collected during geological field visits, future activity-based studies and collaborating with other states and federal agencies known to have already addressed this issue, will allow our state to provide a NOA reference specific to North Carolina in the near future. ♦

To learn more about NOA go to the following web sites:

USGS: <http://pubs.usgs.gov/of/2005/1189/>  
Virginia: <http://fairfaxcounty.gov/hd/asbintro.htm>  
California: <http://www.arb.ca.gov/toxics/asbestos/asbestos.htm>  
ATSDR: <http://www.atsdr.cdc.gov/asbestos>

## Training and Continuing Education Credit Opportunity

Prepared by Colleen Miller, Laboratory Improvement Consultant, N.C. State Laboratory of Public Health

Collaboration between the Laboratory Improvement Unit and the Newborn Screening Unit within the NC State Laboratory of Public Health (NCSLPH) produced an outstanding training and continuing education credit opportunity for anyone with an interest in the health of babies born in the state of North Carolina. An interactive training course with instructions for completing the NCSLPH Newborn Screening filter paper form (#DHHS 3105) is available on-line at <http://slph.state.nc.us/>.

In the on-line course, demonstrations and animations instruct the user in the collection of the infant's blood, application of the specimen to the form, completion of demographic information, and shipping requirements. After accessing the NCSLPH public website, left click on the heading "Newborn Screening", then "Form Training." The training module opens to a series of slides that can be advanced forward or backward at the user's pace. The estimated time for completing the study is 30 minutes to one hour. The final slide provides the user an opportunity to take a quiz and receive continuing education credits (1.0 CEU certificate). By learning about the importance of completing this form and proper blood collection and application techniques, you have an opportunity to save a child's life. Please call 919-733-3937 for any technical questions. ♦

## Measles Cases in Guilford County

Prepared by Zack S. Moore, MD, MPH, Epidemic Intelligence Service Officer, General Communicable Disease Control Branch, Sheree F. Smith, RN, BSN, Public Health Nursing Consultant and Dorothea Janney, RN, Public Health Nursing Consultant, Immunization Branch

Measles is a highly contagious disease caused by the rubeola virus. Before measles vaccine was available, there were approximately 3 to 4 million cases and an average of 450 deaths from measles every year in the U.S., with epidemic cycles every 2 to 3 years<sup>1</sup>. The annual number of measles cases has dropped by 98% since vaccine was introduced in 1963. In March of 2000, the CDC concluded that measles is no longer endemic in the U.S.<sup>1</sup> This means that the only measles cases we see in the U.S. today have been brought in from other countries. Cases are usually brought from Europe and Asia, since measles incidence is very low in Latin America and the Caribbean<sup>1</sup>.

Each case of measles has the potential to cause an outbreak, and is therefore considered a public health emergency. Infection control measures must be rapidly implemented, and susceptible contacts must be identified and offered vaccine or immune globulin. State and local public health officials in North Carolina were recently called on to manage one such case in Guilford County.

On January 25, 2007, the N.C. Division of Public Health was notified of a laboratory-confirmed case of measles in a 23 year-old unvaccinated woman who had recently arrived from India with her husband and 5 month-old daughter. The patient developed prodromal symptoms with fever and coryza on January 16th, followed by rash on January 20. She left India on January 14th, and arrived in North Carolina on January 15th after stopovers in London and Chicago. She was seen in the local emergency department on January 20th and 21st, and was admitted on the evening of January 21st. Airborne isolation precautions were not implemented in the emergency department or during the first 48 hours after admission.

Hospital infection control personnel, the Guilford County Health Department and colleagues with the Immunization Branch began an intensive investigation in consultation with the General Communicable Disease Control Branch and CDC. It was determined that the risk of exposure during air travel was minimal, and most exposures occurred in the hospital and at a dinner party on January 16th. Susceptible contacts were identified, informed of the exposure, educated regarding control measures, evaluated for illness, and given vaccine or immune globulin if indicated. The 5 month-old infant was given immune globulin and the husband was given

*(continued on page 9)*

*(Measles Cases in Guilford County, continued from page 5)*

one dose of MMR vaccine. All high-risk contacts were kept under active daily surveillance for 21 days after last contact with the index case. Infection control staff began enhanced surveillance for measles in the hospital. Twenty-three out of 59 hospital employees identified as having been exposed to the index case were initially unable to provide documentation of measles immunity. However, more were able to locate documentation when faced with the options of re-immunization or work furlough. Vaccination clinics were held daily from January 26th–28th. A press conference was held on January 26th and a notification was posted on the NC Health Alert Network. Regular contact with the media and the public was maintained by the local health department.

On January 31, the 5 month-old daughter developed a full-body rash and symptoms consistent with measles. On February 3<sup>rd</sup>, a third case was identified in another infant, 8 months of age, who lived in the same apartment complex as the index case and had been directly exposed at the January 16<sup>th</sup> dinner party. This child had been identified as a contact and received one dose of measles vaccine on January 28<sup>th</sup>. The child's parents were also from India and were employed by the same company as the husband of the index patient. In all, over 305 contacts were notified; 165 doses of MMR vaccine and one dose of immune globulin were administered to susceptible contacts. No additional cases were identified.

These cases highlight the continuing risk of measles, particularly among those with recent travel to highly-endemic areas. Early, coordinated public health actions by local and state public health officials were critical in preventing an outbreak. ♦

Reference:

1. CDC. *Measles History*. Available at: <http://www.cdc.gov/nip/diseases/measles/history.htm>. Last accessed March 8, 2007.

### **Get Real, Get Tested, Update #2 Raleigh and Durham, N.C.**

*Prepared by Holly Crane, Campaign Coordinator*

**Get Real, Get Tested** is North Carolina's campaign to encourage HIV education and testing through a two-pronged approach: the educational segment is designed to reach citizens statewide, while the testing segment targets select high-morbidity communities. The overall campaign is sponsored by WRAZ/FOX 50, Duke Medicine, UNC Health Care, and the State of North Carolina's HIV/STD Prevention and Care Branch.

The second **Get Real, Get Tested** targeted testing event was held in Raleigh on February 8 and Durham on February 9, 2007. Free HIV and syphilis testing was offered at the Wake County and Durham County health departments and in various locations in Raleigh and Durham. Testing teams included volunteers from the HIV/STD Prevention and Care Branch, Wake County Human Services, Durham County Health Department, Alliance of AIDS Services-Carolina, El Centro Hispano, UNC Project STYLE, and CAARE, Inc. Special recognition goes to Ms. Yvonne Torres of Wake County Human Services and Ms. Mary DeCoster of the Durham County Health Department for their diligence in preparing their respective communities for this event and conducting community outreach and testing.

Prior to the event, the campaign was featured in several media outlets. The testing events were highlighted on WRAZ/FOX 50, News 14 Carolina, WPTF Talk Radio and The Herald Sun. The staff from the Alliance of AIDS Services-Carolina, CAARE Inc., El Centro Hispano, Southlight, Wake County and Durham County health departments conducted hours of outreach preparing the community for the events. Many people came out for the event after seeing the advertisement on community calendars, seeing flyers, or hearing about it by advertisement on the radio or by word of mouth.

In conjunction with the **Get Real, Get Tested** event, the HIV/STD Prevention and Care Branch sponsored a step show in Durham on February 9 in recognition of National Black HIV AIDS Awareness Day (NBHAAD). This was a community event to which entire families came to watch the step teams compete and to learn more about HIV and AIDS. During the step show, HIV and syphilis testing was offered and over 90 people were tested.

Over 200 people were tested during the **Get Real, Get Tested** events in Raleigh and Durham. Four persons tested positive for HIV-1 antibody. Of those four, one person was identified as a previous positive. All persons found to be positive are referred to care or back into care.

The next **Get Real, Get Tested** event will take place in High Point on April 20 and Greensboro on April 21. For more information about the **Get Real, Get Tested** campaign, go to [www.fox50.com/real](http://www.fox50.com/real). ♦

**GET REAL.  
GET TESTED.**

**¡ASEGURATE!  
¡WASTE LA PRUEBA!**

**Reported Communicable Diseases, North Carolina, January-March 2007 (by date of report)\***

Disease	Year-to-Date (First Quarter)			1stQuarter 2007	Comments / Note
	2007	2006	Mean (2002-2006)		
Campylobacter	123	221	150	123	
Chlamydia, laboratory reports	7656	9655	7381	7656	
Cryptosporidiosis	8	23	16	8	
Dengue	1	1	1	1	
E. coli Shiga Toxin-producing	16	19	9	16	Note 1
Ehrlichiosis, Monocytic	3	14	5	3	
Foodborne, Other	44	60	20	44	
Foodborne, Staphylococcal	1	0	2	1	
Gonorrhea	3880	5079	4200	3880	
Haemophilus Influenzae	13	14	13	13	
Hemolytic Uremic Syndrome	4	0	1	4	
Hepatitis A	6	34	37	6	
Hepatitis B	48	49	44	48	
Hepatitis B Carrier	84	223	195	84	
Hepatitis C, Acute	6	0	4	6	
HIV/AIDS	357	682	502	357	Note 2
Legionellosis	9	9	7	9	
Listeriosis	3	11	5	3	
Lyme Disease	5	8	15	5	
Malaria	4	9	6	4	
Meningococcal Invasive	4	11	9	4	
Meningitis, Pneumococcal	18	14	13	18	
Q Fever	1	1	0	1	
Rabies, Animal	102	77	128	102	
RMSF	32	218	86	32	
Salmonellosis	337	333	263	337	
Shigellosis	15	56	96	15	
Strep A, Invasive	40	34	35	40	
Syphilis, total	159	165	131	159	Note 3
Toxic Shock Synd., Strep.	3	4	1	3	
Tuberculosis	62	57	44	62	
Typhoid, Acute	1	1	1	1	
Vibrio, Other	1	2	3	1	
Whooping Cough	59	52	31	59	

\* Preliminary data, as of 3/31/2007. Quarters defined as 13 weeks periods. Diseases reported in 2007 define those listed in this table. Notes: 1. "E. coli O157::H7" was disease name until 2/15/2003; 2. Earliest report with HIV infection or AIDS diagnosis; 3. Includes primary, secondary and early latent syphilis.

## Update on the N.C. Electronic Disease Surveillance System (NC EDSS)

*Prepared by Allison M. Connolly, M.A., M.P.H., NC EDSS Coordinator, Epidemiology Section*

The N.C. Division of Public Health continues to make progress on the NC EDSS project. I mentioned in the last update that TB piloting began in five local health departments (LHDs) (Forsyth, Wilkes, Wake, Pitt and Mecklenburg) last fall. We had anticipated that the pilot phase would be completed by January 2007. However, we chose to remain in the pilot phase because implementation of electronic laboratory reporting (ELR) and completion of necessary system software updates have both taken much longer than anticipated. We expect that these tasks will be completed by the end of May, and that the TB program will begin to implement the NC EDSS system in late summer in counties with the highest TB morbidity in the state. The rest of the counties will have TB surveillance implemented at the same time as other communicable diseases, which include sexually transmitted diseases, general communicable diseases and vaccine-preventable diseases. Piloting of communicable diseases is scheduled to begin in November 2007, followed by statewide rollout in 2008.

The NC EDSS Project is pleased to welcome Del Williams to our staff. Many of you probably know Del in his role as Head of the Epidemiology and Special Studies Unit within the HIV/STD Prevention and Care Branch for the past 15 years. Del has been reassigned to work as the lead epidemiologist for NC EDSS until approximately the end of 2007. Please feel free to contact him with questions or concerns at (919) 733-9606 or by email at [del.williams@ncmail.net](mailto:del.williams@ncmail.net).

Please look for NC EDSS at the annual EpiTeams Conference on May 17<sup>th</sup> at the Sheraton Imperial Hotel in Research Triangle Park. We will have a table at which you can see a demonstration of the NC EDSS program and talk to the NC EDSS staff. A presentation on the current activities related to development and deployment of the NC EDSS will also occur at the conference.

If you have any questions about the NC EDSS Project, please contact me at [allison.connolly@ncmail.net](mailto:allison.connolly@ncmail.net) or (919) 715-1642. ♦

## Employee Recognition: Margot Corrigan Employee of the Quarter

*Prepared by Patsy West, Administrative Assistant, Epidemiology Section*



Margot Corrigan has received the Epidemiology Section's Employee Recognition Award for the first Quarter of 2007. Corrigan was nominated in the category of Service Excellence.

Before becoming a member of the HIV/STD Prevention and Care team, Corrigan worked in Quality Assurance with UNC Hospitals and for the American Social Health Association (ASHA). Corrigan joined the HIV/STD Prevention and Care Branch as a Public Health Nursing Consultant in February 2000.

Corrigan is a member of the Quality Assurance Training and Development Unit. She conducts assessments of delivery systems in funded sites for HIV/STD services with a focus on accessibility, availability, acceptability, continuity, reporting and surveillance. Corrigan also provides nursing practice consultation and technical assistance to public health departments as necessary and to the private sector as feasible on HIV counseling and testing sites and STD assessment and treatment. She has a wonderful reputation for her ability to provide and arrange for training to local health departments and staff of other divisions on HIV/STD and related topics. Corrigan assists as an active and visible Quality Assurance Program liaison between the HIV/STD Branch and local community providers. Corrigan also functions as the Branch liaison to the North Carolina Association of Public Health Nurse Administrators and regularly briefs them on Branch issues. Corrigan has also served effectively as the main contact between the HIV/STD Branch and the Florida Prevention Training Center, which is a regional training center providing HIV/STD education and training for several states in the Southeast.

Through Corrigan's wonderful personality, willingness to help, and her extensive knowledge, she provides excellent customer service to the local health departments and other partners of the HIV/STD Prevention and Care Branch.

In addition to receiving the Epidemiology Section's Employee Recognition Award, she will be presented with a gift certificate to a local restaurant from the Epidemiology Section Management Team. ♦

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