Michigan Department of Community Health
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EPI Insight
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Michigan Oral Health Surveillance

By: Michael Paustain, M.S.

Oral health as a component of overall health has been a concern in Michigan for many years. In 1991, an Oral Health workgroup led by the Michigan Department of Community Health developed the Michigan Oral Data (MOD) System as a tool to assess and manage the local needs in dental clinics. The system involves the collection of caries prevalence, untreated decay, and several other oral health indicators for different age groups. Currently, 11 local dental clinics in Michigan collect oral health data using this system. However, the data had not previously been analyzed and the system for collection had yet to be evaluated. This past October, Michael Paustian, Maternal and Child Health Epidemiologist at the Michigan Department of Community Health, and Nagesh Borse, graduate epidemiology student at Michigan State University, visited each site to evaluate the data collection process as well as its potential use in a statewide oral health surveillance system.

Although the MOD System is not population based or statewide, the analysis of the 2002 MOD data provided useful insight regarding the prevalence and severity of disease, but several data deficiencies also became apparent. The missing demographic information inherent in the system limited the ability to identify targets for oral health interventions and also to account for confounding bias or to test for disparities. There were also differences in how data collectors had recorded untreated decay and caries experience that led to a systematic bias in the data collection at three of the sites. Despite these deficiencies, the system still provided some useful oral health information on primarily Medicaid and uninsured population:

- Approximately one in six children, ages two to five, had evidence of early childhood caries.
- Among six to 12 year old children, 46.3% had caries experience in their permanent teeth and 30.8% had untreated permanent tooth decay. An average of 2.9 permanent teeth had caries experience among children with caries experience.
- Sealants had been applied on first molars in 41% of children ages six to 12.
- Among 13 to 19 year old adolescents, 82.0% had caries experience in their permanent teeth and 54.6% had untreated permanent tooth decay. An average of 6.5 permanent teeth had caries experience among adolescents with caries experience.
- Approximately two out of three adults, ages 20 to 64, had untreated permanent tooth decay, and 55.6% of adults had lost at least one tooth due to caries experience or periodontal disease. Nearly one in six had root caries experience.

Dental disease is not uniform across the population. It is often stated that 20% of the population bears 80% of the oral health burden of disease. The MOD system helps provide information for such a population.

The local MOD data collectors, primarily dental hygienists, found the collection process feasible for their practice routines, and all but one site desire to continue the data collection. Many sites were also interested in updating the current system to a computerized format although nearly half of them did not have access to a computer on clinic days and will continue with paper reporting.

The continued evaluation, improvement and expansion of the collection process and data quality will lead to a stronger system that can further address the needs of the at-risk population. With a growing body of evidence linking oral health status to heart disease, diabetes, and premature birth, it will be important to have an oral health surveillance infrastructure in place to assess the needs, and thus, be able to develop targeted prevention strategies.

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Hospital Bioterrorism Preparedness

By: Linda Scott, R.N.[1]

The Department of Health and Human Services, Health Resources and Services Administration's (HRSA) first Cooperative Agreement to Michigan in 2002 directed funding to create regional hospital and pre-hospital plans to respond in the event of a bioterrorist attack. In July 2002, the Michigan Department of Community Health, Office of Public Health Preparedness (OPHP) was officially formed. This office maintains responsibility for coordination, collaboration, and oversight to implement the requirements of both the Centers for Disease Control and Prevention (CDC), and HRSA grants. In addition, all planning activities are closely integrated within the existing state and local emergency management infrastructure, Michigan State Police, Emergency Management Division (MSP/EMD), and at the local, state, and federal level Federal Emergency Management Agency (FEMA).

In an effort to make a seamless response network for Bioterrorism planning, implementation and response, the previously established MSP/EMD regions were utilized to guide the development of the Regional Medical Bio-Defense Networks. Standardizing these regions, capitalizes on previously established relationships, communication networks, and services that have been in place for many years. Each of the eight regions identified regional leadership to coordinate these important activities. Names and contact information are in figure at right.

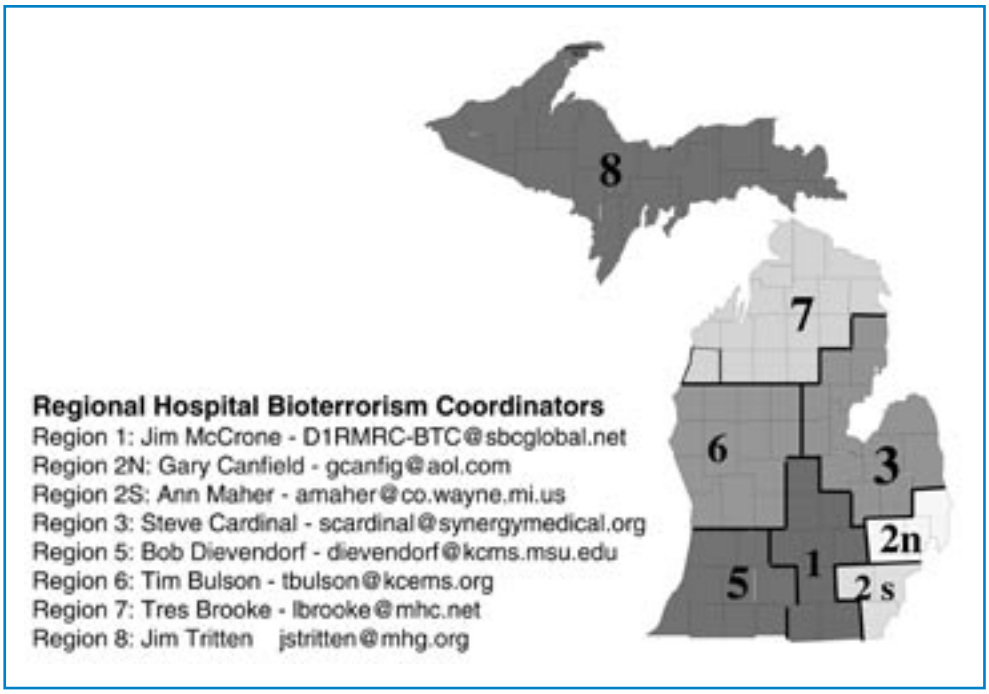
Michigan is currently in the second year of participation in the HRSA Cooperative Agreement - Bioterrorism Hospital Preparedness Program and all our regional partners are extremely busy planning and implementing strategies identified as, "Priority Planning Areas." These areas are targeted to address issues of Surge Capacity, Emergency Medical Services, Collaboration with Public Health Partners and Laboratories, Education and Training, Exercises and Drills. In an effort to meet these areas, many overall statewide activities are underway. Here is a brief overview of several of them:

- MEDDRUN – Michigan Emergency Drug Delivery Resource Utilization Network is an innovative approach to enhance the capacity of Michigan's hospitals to respond to an incident by providing caches of pharmaceuticals, critical medical supplies, and specific personal protective equipment. The caches will be immediately deployable throughout Michigan's EMS helicopter programs and through ground EMS systems in those areas without EMS helicopter services.

- MEMS – Modular Emergency Medical System was designed to address the gap in casualty care resources that would exist in most medical care jurisdictions if a large number of victims were to seek treatment from neighborhood area hospitals. It is designed to be highly adaptable and provides options and point of consideration that can and will be integrated within each region consistent with existing emergency plans.

- Syndromic Surveillance Pilot Project – This pilot project was designed to enable public health officials to rapidly detect and track the unusual outbreaks of illness that may be the result of bioterrorism, other outbreaks of infectious disease or other public health threats and emergencies. Real time detection of a notable increase in patients presenting for care with designated symptoms as evidenced by the transmission of electronic triage data from 9 hospitals across the state will be available. Data review and analysis by our Regional Epidemiologists will provide insight on considerations for expanding this pilot project along with our partners.

- Secondary Hospital Assessment – In 2002, each hospital, Medical Control Authority and Life Support Agency completed a "needs assessment". This information provided critical information to planning partners on issues of services, devices, skills, facilities and staffing. To further address new initiatives and clarify previous information obtained, a follow-up project, the "Secondary Assessment Survey Tool" is currently



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The Toxic Substances Information Directory

The Division of Environmental and Occupational Epidemiology recently completed work on the Toxic Substances Information Directory, a new resource available to local health departments, other health professionals, and the public. The directory was developed under the auspices of a grant from the National Institute for Occupational Safety and Health (NIOSH), in response to local health departments' requests for more information on occupational health topics and available resources.

Available as a PDF file on the MDCH website, the Toxic Substances Information Directory is an easy-to-use, quick reference document for public health professionals when looking for information sources on an environmental or occupational health topic. It consists of 25 sections. The first six list general information resources: state and federal agencies, universities and non-government organizations, library resources, resources for chemical testing, and reporting requirements. The rest are topic specific.

Topical sections include such areas as mold, pesticides, asbestos, mercury and lead, among others. Each section lists web-based resources available on that particular topic and includes the URL, a brief description of information offered, address and phone number for each. Users may go directly to the resource listed, as all of the web addresses are live web links.

While we have initially sent local health departments a printed copy of the directory, it will be permanently located on our website at www.michigan.gov/mdch-toxics, where it will be accessible to the public and updated as needed. Health officials may steer the public directly to the website.

For more information, contact Shevon Desai at 517-335-9257.

"…Bioterrorism Preparedness" continued from page 2

underway with each hospital in Michigan. This tool will obtain focused information on bed capacity, rooms and ventilation, decontamination, supplies on hand, and facility safety and security.

As one can see, there is a great deal of activity and the hope is that all interested individuals from hospitals, EMS, local public health, emergency management, volunteer supporting agencies, to name a few, are involved in their regional initiative. We must all work together to identify the best integrated strategies and approaches to develop and maintain good emergency preparedness plans. For more information on the regional initiative, contact your regions Bioterrorism Hospital Coordinator (see below) or Linda Scott - Bioterrorism Hospital Coordinator at OPHP scottlin@michigan.gov.

[1] *Office of Public Health Preparedness*

The Director's Award

The Bureau of Epidemiology gives the Director's Award to an outstanding employee twice yearly. In December 2003, the Director's Award was given to Bob Swanson, M.P.H., Manager of the Assessment and Local Support Section within the Division of Communicable Disease and Immunization.

Bob has provided the leadership and know-how to keep things running smoothly in the Immunization Program, in spite of two key managerial positions being vacant for the past eight months. Bob was left with the sole responsibility of managing the Immunization Program, which he has taken on with strong leadership and ability.

Recent Publications

The **Division of Vital Records and Health Statistics** has posted updated population estimates on the Department's website. The updated 1990-2002 population estimates were taken mainly from the bridged, single-race estimates released by the National Center for Health Statistics for Michigan counties by age, gender, race, and Hispanic origin. You can view these estimates at http://www.mdch.state.mi.us/pha/osr/index.asp?Id=17. In December 2003 the updated Michigan birth defects incidence and mortality statistics were released through 2001. In March 2004 the updated Michigan cancer incidence and mortality statistics through 2001 were released.

Mokotoff, E., and L. Davis-Satterla. HIV Risk to Female Partners of Behaviorally Bisexual Men. *FOCUS-A Guide to AIDS Research and Counseling.* 2004; 19(2): 5-6.

Linn County Public Health, Iowa Dept of Public Health, **Stobiersky, M.G., Swanson, R., Boulton, M.L.,** Dayan, G.H., and C. LeBaron. Brief Report: Imported Measles Case Associated with Nonmedical Vaccine Exemption — Iowa, March 2004. *CDC Morbidity and Mortality Weekly.* 2004; 53(11): 244-246.

Acknowledgement

The Bureau of Epidemiology would like to acknowledge Dr. Dennis Smallwood, D.O., for his assistance in the investigations of the tuberculosis outbreak in Huron and Tuscola counties cited in the Winter 2004 edition of Epi Insight (Preliminary Summary of Tuberculosis Case Investigation involving a Middle School Teacher in the Thumb of Michigan). Dr. Smallwood, as Medical Director for Huron and Tuscola county health departments, provided guidance, coordination, and leadership to these essential public health investigations.

Surveillance for HIV Drug Resistance

By: Garry Goza, M.S.

The genetic diversity of human immunodeficiency virus (HIV) globally is well known with nine (A-H,O) distinct subtypes identified to date, based on the genetic characterization of gag and envelope genes. Isolates of HIV-1 identified in the United States and Western Europe are predominantly subtype B; however, there is no systematic surveillance for genetic diversity in place in the United States. The occasional reports of HIV-2 and of subtypes other than B in the United States indicate that multiple introductions of HIV have occurred. No mechanism is currently in place to evaluate whether the distribution of subtypes in the United States is changing over time or occurs within particular risk groups or regions of the United States. Systematic surveillance for antiretroviral drug resistance among isolates of HIV-1 will determine if there is transmission of resistant viral genotypes from HIV-1 infected persons on treatment to uninfected persons; determine the distribution of resistant viral genotypes among persons who have not received antiretroviral chemotherapy; suggest treatment strategies for communities or geographic areas by providing information to clinicians, pharmaceutical researchers, and public health authorities making treatment recommendations and developing new treatments. Surveillance can also suggest if new interventions are needed among infected persons in treatment to prevent the spread of disease.

Michigan has been funded by the Centers for Disease Control and Prevention (CDC) to develop a surveillance system for HIV drug resistance in Michigan to help examine drug resistant strains at the local level. Blood specimens collected from untreated, newly diagnosed HIV-1 infected persons aged 18 years and over who have no known AIDS defining illnesses would be tested for the presence of genetic mutations associated with HIV-1 antiretroviral drug resistance. Phenotypic resistance may also be studied.

There is substantial overlap between the resistance surveillance project and the STARHS or HIV incidence surveillance project protocols as sera from the HIV Incidence Project blood draw is proposed to be used and thus no special blood draw for resistance testing may be required. The need for informed consent has been waived and the CDC Institutional Review Board (IRB) has agreed to waive informed consent if local IRBs agree. Testing will be done by using 1-2 ml of HIV diagnostic serum for resistance testing as part of routine HIV diagnostic testing. Posters or information sheets, or a one-line statement on the general HIV consent form, would be used to inform persons having an HIV test that if the test proves positive the HIV will also be tested for drug resistance. Results are considered clinically beneficial and would be available to participants' providers in "real time." There are no plans to include large commercial laboratories. No interview questions are planned and only a small number of routine demographic and clinical variables already collected through HIV surveillance are the only variables which would be needed to be included. The sera aliquoted for resistance testing must be frozen at –70 degrees Celsius and shipped on dry ice to the laboratory to maintain that temperature. Resistance genotyping would be performed by the MDCH Bureau of Laboratories or by the existing CDC contract with Stanford Laboratories. Testing results would be sent simultaneously to CDC and the HIV/AIDS Surveillance Section for entry into the HIV/AIDS reporting database.

If you have questions about the surveillance for drug resistant HIV strains in Michigan, contact Mary-Grace Brandt of the HIV/STD and Other Bloodborne Infections Surveillance Section at 313-876-4115 or brandtmg@michigan.gov

Michigan Designated Academic Center for Public Health Preparedness

The University of Michigan School of Public Health, in collaboration with the Michigan Department of Community Health, local, and academic public health associations statewide, has been designated an Academic Center for Public Health Preparedness by the Association of Schools of Public Health. There are 21 centers representing 23 schools of public health around the country. These centers improve the capacity of front line public health and health care workers to quickly respond to bioterrorism, infectious disease outbreaks, and other public health threats and emergencies. Funding from this program allows the Michigan Academic Center for Public Health Preparedness to provide high quality training in state of the art, best practices to strengthen the preparedness and response capacity of Michigan's state and local public health workforce utilizing face-to-face and distance learning modalities across the state. Also, the center partners with state and local practitioners to enhance learning using case-based and competency-based teaching methods. For more information on this new center, please reference the website at http://www.sph.umich.edu/bioterrorism/.

New Test for West Nile Virus Surveillance in Michigan Corvids

By: Carrie Bonemer, D.V.M.

2004 marks the fourth year that West Nile Virus (WNV) has been a potential threat to the citizens of Michigan. Michigan and its interagency Arbovirus Working Group will continue to provide a variety of WNV surveillance options, one of which is dead bird reporting and testing. Monitoring deaths among birds, especially corvids, is important because it can be an early indicator of West Nile virus activity in an area and such information can be used to estimate the level of risk for human infection. Communities can also use this information to target their intervention and prevention strategies to areas where WNV activity has been detected.

In past years, when dead birds were reported, information was collected as to the location and condition of dead birds, and appropriate birds were collected for testing. Bird specimens were then sent to the Diagnostic Center for Population and Animal Health (DCPAH) at Michigan State University for immunohistochemistry testing (IHC). During the 2003 WNV season, 679 birds were submitted for IHC testing with 454 of those being testable. DCPAH identified 96 WNV-positive birds in 68 of Michigan's 83 counties using IHC testing.

For 2004, DCPAH will continue to test corvids, but the methods used will be updated. Recent studies on the accuracy and efficiency of avian oral swabbing have shown high specificity/sensitivity, and low overhead. Therefore, oral swabs from dead corvids will be tested using the VecTest® antigen capture wicking assay. IHC will continue to be conducted on non-corvid species for which the VecTest® is less reliable. The first VecTest® positive sample for each county will then be confirmed by PCR. This new testing process will help reduce the costs involved in bird surveillance and facilitate the timely reporting of surveillance information to Michigan communities.

Upcoming Conferences

The 2004 National Association for Public Health Statistics and Information Systems (NAPHSIS) and the Vital Statistics Cooperative Program Directors meeting will be held in Portland, OR from June 6th-June10th. More information on the meeting can be found on the NAPHSIS web site at http://www.naphsis.org/events/index.asp?bid=423.

The 2004 Council of State and Territorial Epidemiologist annual conference will be held June 6th to 10th in Boise, ID. The focus of this conference will be *"Balancing Tradition with the 'New Normal' in Epidemiology."* More information about the conference can be found on the CSTE website, www.cste.org.

New Applied Epidemiology Fellows

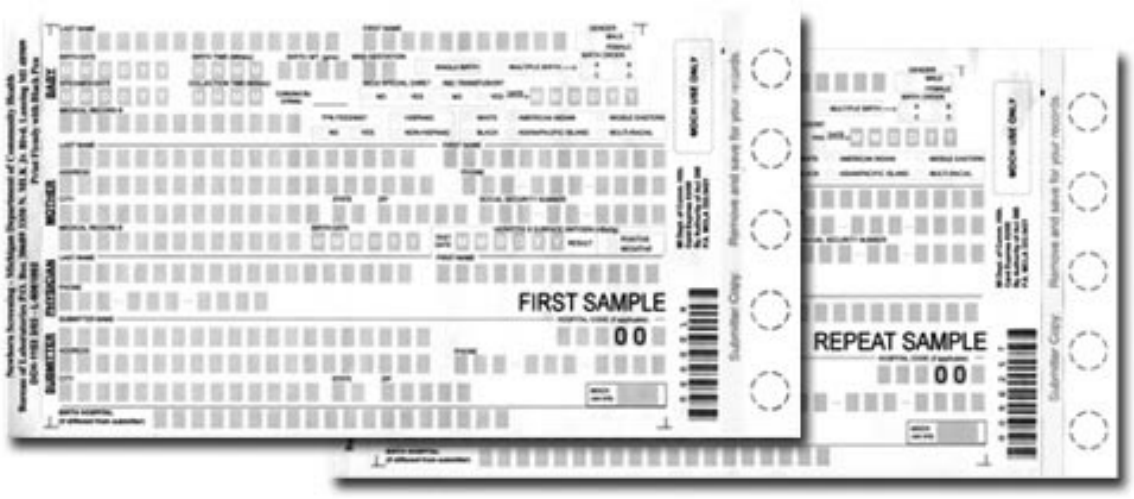
In an effort to address the critical need for epidemiologists at state and local health departments the Centers for Disease Control and Prevention (CDC), Council for State and Territorial Epidemiologists (CSTE), and Association of Schools of Public Health (ASPH) created a two-year applied epidemiology fellowship. Epidemiology training revolves around a set of core competencies and skills. The first class of 10 fellows out of 77 applicants started January 2004 in state health departments from Virginia to North Carolina. They filled public health positions in chronic disease, environmental health, infectious disease, maternal and child health, and birth defects. Michigan was the only state to receive two fellows.

TaTisha McCainey is a chronic disease fellow in the Epidemiology Services Division. She received her Masters in Public Health from the University of Alabama, Birmingham with a focus in Maternal and Child Health. Her current projects include evaluation of asthma surveillance and assessing Michigan Asthma Advisory Committee (MAAC) in their attainment of MAAC goals and objectives over the last year. She will also study the feasibility of adding family history to the cancer registry as well as begin her bioterrorism preparedness training.

Robbie Therese Madera is an infectious disease fellow in the Division of Communicable Disease and Immunization. She graduated from the University of Michigan School of Public Health and received her Masters in Public Health, with a focus in Hospital and Molecular Epidemiology. She works on enteric illnesses and will be working with the Bureau of Laboratories on an active surveillance project of Shiga-Toxin E. Coli. Her other project is an evaluation of Shigella surveillance.

DNA Extraction of Archived Guthrie Cards

By: Jonathan Duczkowski, B.S.[1]



Transport, storage and processing of biological samples are one of the greatest challenges to laboratory workers. A good storage media is one that retains a sample for an extended period of time without altering its characteristics, but is able to be processed in a manner that releases the sample when needed. Ideally, any biological agents will be rendered non-infectious, the sample will be resistant to temperature and humidity extremes, and all aspects of specimen storage and processing will be inexpensive. Schleicher & Schuell 903 paper, such as that used in Guthrie cards, has all of these traits.

Guthrie cards have been used since the mid-1960s for the screening of newborn metabolic illnesses as PKU, MCAD and Maple Syrup Urine Disease. The introduction of mass spectroscopy has allowed for the detection of very rare metabolic products, while improved techniques have been developed to extract samples from very small quantities of specimen. Despite this diversification of assays, there remain some diseases and disorders that are not easily detectable by conventional methods, such as sickle cell anemia and cystic fibrosis. These challenges have led the State of Michigan to study the possibility of genomic-based testing utilizing newborn screening cards as a source of DNA.

Several published methods for DNA extraction were examined and tested. It was decided to use the Qiagen DNA Mini Kit due to previous experience with the kit, as well as its demonstrated reliability and reproducibility. In order to determine the quality of extracted DNA we performed three different types of amplification assays on three different gene targets. The first was standard PCR amplification of a conserved region within the HLA-DQ alpha gene, followed by detection using a polyacrylamide gel and ethidium bromide. This proved to be the least sensitive and most problematic of the assays used. The other detection methods were "real time" PCRs, a TaqMan targeting a portion of the albumin gene and a LightCycler amplification detecting part of the beta-actin gene. Both of these assays showed themselves to be extremely reliable and sensitive.

A baseline for assay performance was established by preparing a run of 70 samples, ranging in age from 22 years (1981) to current (2003). Three archived samples per year were selected at random from the State of Michigan's long-term storage facility. All extractions yielded positive results for all assays, although some of the standard PCR amplifications had to be optimized before functioning reliably. There was no significant trend indicating a decrease in yield for any samples, regardless of specimen age.

Once the initial validation was complete, the next step was using the extraction procedure for a population-screening assay. The State of Michigan currently uses dried bloods spots for detection of hemoglobinopathies such as sickle cell (Hgb S), hemoglobin C disease, and hemoglobin E. Population screening of newborns is accomplished by HPLC, followed by Isoelectric Focusing (IEF) as a confirmatory test on putative positives. By implementing a published protocol, we have established a reliable alternative to IEF that uses the melting point of certain probes to determine which of the three most common mutations is present in a sample. A method utilizing fluorescent beads linked to short DNA probes is currently being investigated. This assay may allow additional testing to detect common beta-thalassemia mutations at approximately the same cost, albeit with an increase in complexity.

We now know that the State of Michigan's storage facility is adequate for the preservation of DNA on Guthrie cards, despite having limited temperature and humidity controls. The quality of DNA will allow us to perform additional tests for such heritable diseases as beta thalassemia and cystic fibrosis. The integration of these extraction techniques with existing collection methods will be a useful addition to our testing repertoire.

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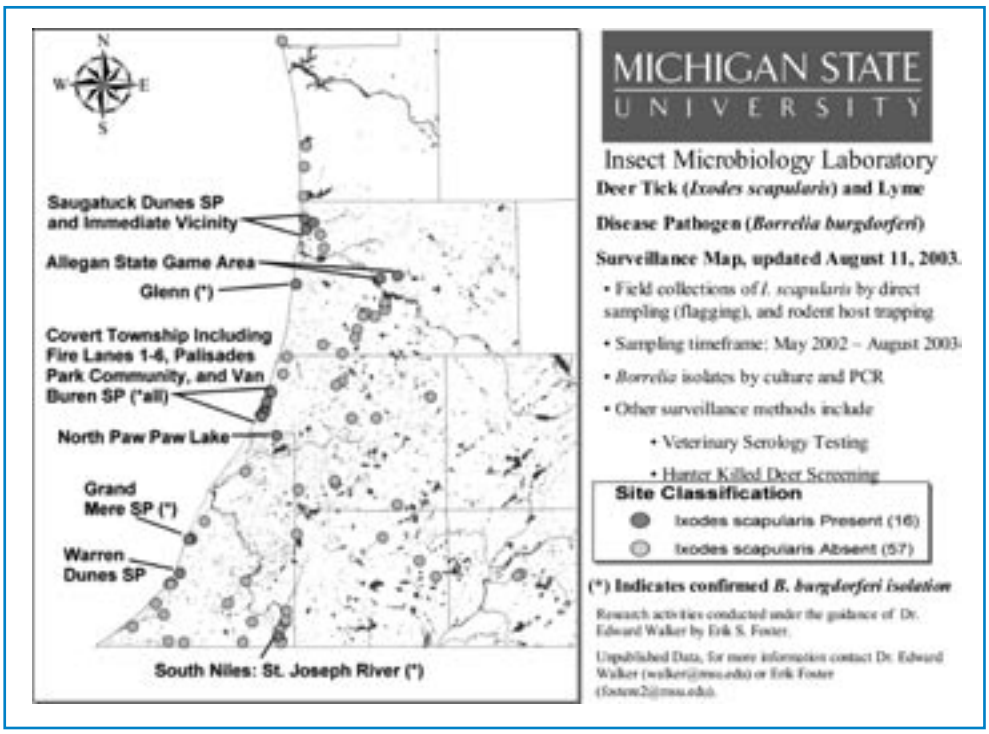
[1] *Jonathan is a Centers for Disease Control / American Public Health Laboratories Emerging Infectious Disease training fellow working in the Molecular Epidemiology section, Division of Infectious Disease, at the Michigan Department of Community Health, Bureau of Laboratories.*

New Information about Lyme Disease in Michigan

By: Kim Signs, D.V.M.

Numerous surveillance activities to characterize Lyme disease have been conducted for nearly 20 years in Michigan. Recently, Michigan State University researchers have been conducting a long-term surveillance project for Ixodes scapularis ticks, the vector species for Lyme disease, in southwest Lower Michigan. This project was initiated in 2001 based on ecologic predictors that indicated southwest Michigan has suitable habitat for invasion by this tick species. Northern Indiana has noted the presence of this tick and Borrelia burgdorferii, the organism that causes Lyme disease. As the ecology of the area being surveyed is very similar to that of northern Indiana, it appeared likely that this disease vector could become established in Lower Michigan. This study has involved looking for the presence of Ixodes scapularis ticks, testing those ticks for infection with Borrelia burgdorferi, and looking for evidence of infection in rodents and dogs in the area. Special culturing methods can be used to look for the presence of Borrelia burgdorferii either in live ticks, or ear punch biopsies obtained from trapped rodents, which are the natural reservoir for the organism.

Information being obtained from this ongoing study indicates an emerging presence of Ixodes scapularis ticks in Berrien, Van Buren, and Allegan counties in southwest Lower Michigan (see attached map). According to the researcher, Dr. Edward Walker, of the Department of Microbiology and Molecular Genetics, 16 of 73 wooded sites have been found to have Ixodes scapularis ticks. More than 200 of these ticks have been tested for Borrelia burgdorferi and roughly 40-50 percent of the ticks at six of the 16 sites have tested positive. Several rodents have also been found to be carrying the organism. This data supports the identification of new endemic areas for Lyme disease in Michigan, in addition to previously recognized Menominee County in the Upper Peninsula.



Because of the popularity of these areas to tourists, physicians in Michigan and surrounding states need to be aware of the potential for exposure to Lyme disease in their patients who may have visited these areas. Lyme disease should be considered in any patient who reports a history of a tick bite, presence of a characteristic rash that may be accompanied by a flu-like illness, and/or presence of symptoms involving the musculoskeletal, nervous, or cardiovascular systems for which another explanation cannot be found, after exposure to either of these areas in Michigan. Cases of Lyme disease must be reported to local health authorities.

The following are some services that are offered to Michigan residents:

Testing in humans:

The MDCH laboratory provides testing at no charge to Michigan residents, upon the order of a physician. Instructions for specimen collection and test requisition forms may also located on the web at www.michigan.gov/mdch, click on Providers, Lab Services, Quality Assurance, select Test Request Forms, then "Microbiology/Virology requisition form (DCH-0583)" or select Specimen Collection Instructions and find "Lyme Disease-Instructions for Inoculation of BSK Medium DCH-1236". Specimens of choice include 1) biopsy or intracutaneous washing (needle aspiration) of the typical Erythema Migrans (EM) lesions for culture collected before antibiotic administration, and 2) sera collected immediately after onset of symptoms. BSK is a specialized media required for the culture of Borrelia sp. organisms, and often is not readily available at most hospital laboratories. This media has been supplied to local health departments and hospital laboratories in southwest Lower Michigan. BSK can also be obtained from the MDCH laboratory. Sera will be tested with an EIA, followed by a Western Blot if positive or equivocal. Questions about laboratory testing should be directed to Hema Kapoor, M.D. (Tick testing and serology) or James Rudrik, Ph.D. (Culture of B. burgdorferi) in the Infectious Disease Division of the Bureau of Laboratories at (517) 335-8067. Test kits and BSK media can

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New Employees

Bridget Patrick, B.A., is the new Infectious Disease Liaison in the Infectious Disease Epidemiology section. Patrick has a B.A. in Journalism from Michigan State University. She has written for various newspapers and magazines and worked in the state legislature. Patrick will be assembling information for the lay public on infectious diseases that may be zoonotic and will serve as the web administrator for the Michigan Emerging Diseases Web Site. As the Bovine TB Eradication Project Coordinator, she will work with experts to develop communications, conferences and programs that will help with disease eradication efforts.

Carrie Bonemer, D.V.M., is the new Arbovirus Surveillance Coordinator in the Infectious Disease Epidemiology section. Bonemer has a B.S. in Medical Technology and a D.V.M. in Veterinary Medicine from Michigan State University. She previously worked in the blood bank at Henry Ford Hospital and had an externship at MDCH as a veterinary student working on West Nile Virus surveillance.

Lori Stegmier, M.A., C.H.E.S., is the new Hepatitis Strategic Planning Coordinator in the HIV, STD and Bloodborne Infections section. Stegmier has a B.S. in Education in School Health Education from Central Michigan University and a M.A. in Health and Safety from Ball State University. She is also a Certified Health Education Specialist. Previously, Stegmier worked at Kent County Health Department as the chief health educator and has worked as an independent consultant to plan, implement, and evaluate health education initiatives.

Mary-Grace Brandt, M.P.H., Ph.D., is the new Coordinator for the HIV antiretroviral drug resistance surveillance project in the HIV, STD and Bloodborne Infections section. Brandt has a Ph.D. in genetic epidemiology and a M.P.H. in epidemiology, both from the University of Michigan. Brandt's dissertation work focused on population genetics of hypertension and carotid artery atherosclerosis. She has also worked as a research associate on projects that identified sleep apena in children and behaviors of migrant farm communities that place them at risk for HIV.

Lalitha Sankaran, M.P.H., M.S.W., is the new HIV Incidence Surveillance Coordinator in the HIV, STD and Bloodborne Infections Surveillance Section. She previously worked in the Washington State Department of Health on teen pregnancy issues and in a community based organization in India in HIV prevention. She has a M.P.H. from Oregon State University and an M.S.W. from the Tata Institute of Social Sciences, India.

Michelle Cook, M.P.H. recently joined the Division of Epidemiology Services as the new Behavioral Risk Factor Survey (BRFS) Coordinator. Cook received a B.S. in biology from the University of Massachusetts-Dartmouth and completed her M.P.H. in epidemiology at the University of Albany. Cook previously interned with the New York State Department of Health in the Expanded BRFS program and the disability and health program.

Jay Wagar, M.A., is the new certification specialist for the Lead Hazard Remediation Program in the Division of Environmental and Occupational Epidemiology. He attended Wheaton College where he received a M.A degree in Intercultural Studies. Most recently he worked for Environmental Testing and Consulting as a trainer for lead and asbestos abatement.

Steve M. Smith, M.P.A., recently joined the Lead Hazard Remediation Program as an Industrial Hygienist. He holds a Masters of Public Administration from Western Michigan University – 1976. In 2001 Steve retired from the position of Housing Rehabilitation Administrator with the City of Grand Rapids. Since retiring, he has provided housing rehabilitation consulting services for various cities, counties and non-profit agencies in Michigan. Through the Lead Hazard Remediation Program he will conduct State-wide Lead Risk assessments for families with a lead burdened child. He is also working with MSHDA to coordinate their Property Improvement Program with Lead Hazard Remediation Program activities.

Abby Schwartz, M.P.H., is an Environmental Epidemiologist working on the Michigan Occupational Pesticide Illness and Injury Surveillance Project in the Environmental and Occupational Epidemiology Division. She received her undergraduate degree in molecular biology from Colgate University and her M.P.H. in Public Health Policy and Administration from the University of Michigan. She has worked as a biological laboratory technician, as a teacher in the Peace Corps, as the Administrative Coordinator at the Council Against Domestic Assault, and as a research associate and Survey Unit Coordinator at the Michigan Public Health Institute

Staff Changes

Jada Williams, M.S.P.H., is a new HIV/STD Epidemiologist in the HIV, STD and Bloodborne Infections Surveillance section. Williams was formerly the Vector-Borne Disease Epidemiologist in the Infectious Disease Epidemiology section. Williams has a B.S. in Biopsychology from the University of Michigan and a M.S.P.H. from Tulane University, School of Public Health in Environmental Health.

Carla Merritt, M.P.H. is the newest Regional Epidemiologist for region 2N (Oakland, Macomb, and St. Clair Counties) in the Surveillance Systems section. Merritt was formerly the STD Epidemiologist with the HIV, STD, and Bloodborne Infections Surveillance section, working on syphilis epidemiology at the Detroit Health Department. Merritt has a B.S. in microbiology from Michigan State University and a M.P.H. in Epidemiology from the University of Michigan.

Collaborations

The Vital Records and Health Data and Development Section, within the Epidemiology Services Division, frequently collaborates in studies with researchers across the state. Some highlights from their most recent collaborations follow:

Two studies of twin births are being conducted by the Department of Psychology at Michigan State University. Kelly Klump, Ph.D. is the principal investigator for the "Twin Study of Eating, Mood and Hormones." This study examines relationships between hormones, mood, and eating attitudes and behaviors. The study hopes to learn about the ways in which fluctuations in hormones may be related to differences in these psychological characteristics and behaviors.

Dr. Klump and Joel Nigg, Ph.D., are also conducting the Twin Study of Personality and Behavioral Adjustment that examines these relationships. The study hopes to learn more about the ways in which genes and environment influence the development of personality, eating habits, mood, relationship patterns, health behaviors, sexual orientation, and attentional abilities, as well as the way in which these attitudes and behaviors are related to each other. Vital records staff are handling the recruiting of subjects for both twin studies.

A team of researchers at the University of Michigan is conducting a study titled "Arsenic Exposure and Bladder Cancer in Michigan." Jerome Nriagu, Ph.D., is the principal investigator. The cancer registry staff are identifying eligible cases from within the cancer registry and are currently actively recruiting study candidates from selected counties in Michigan, while University of Michigan researchers are recruiting matched controls. Cancer incidence and severity will be evaluated using a number of arsenic exposure measures. The National Cancer Institute funds this research.

The American Cancer Society is collaborating with 14 state cancer registries, including Michigan's, on a study of quality of life and other issues among cancer survivors at 1 year, 3 years and 5 years post diagnosis. Michigan registry staff are identifying eligible survivors and organizing information for recruitment into this study. The American Cancer Society funds this project.

Christopher Giuliano of Michigan State University is conducting a study called, "Adolescent Suicide in Michigan." The study is focusing on the behavioral and emotional condition of the child, the extent to which they received appropriate mental health care, and to identify specific barriers to treatment of adolescents. Recruiting of families with an adolescent suicide between the years 1995 and 2002 is now under way. Blue Cross and Blue Shield of Michigan fund this work.

Data on Michigan live births during the years 1995 through 2000 combined with mortality and birth defects information has been provided to researchers within the National Birth Defects Prevention Network to examine the link between prematurity and birth defects. The principal investigator on this project is Russell S. Kirby, Ph.D., of the School of Public Health at the University of Alabama.

"Lyme Disease…" continued from page 7

be ordered by contacting MDCH Laboratory Support at (517) 335-9867 (phone) or (517) 335-9039 (fax).

Testing in Animals:

Testing for Lyme disease in animals is available through the Diagnostic Center for Population and Animal Health (DCPAH) at Michigan State University. An IFA test on serum specimens is available for most species of animals. In addition, for dogs, a Western Blot test is available which can differentiate antibody titers due to infection verses vaccination. They also offer identification of ticks removed from animals. If the tick is an Ixodes sp., PCR testing for Borrelia can be performed. Further information about testing in animals is available by calling the DCPAH at (517) 353-2296.

Tick Identification:

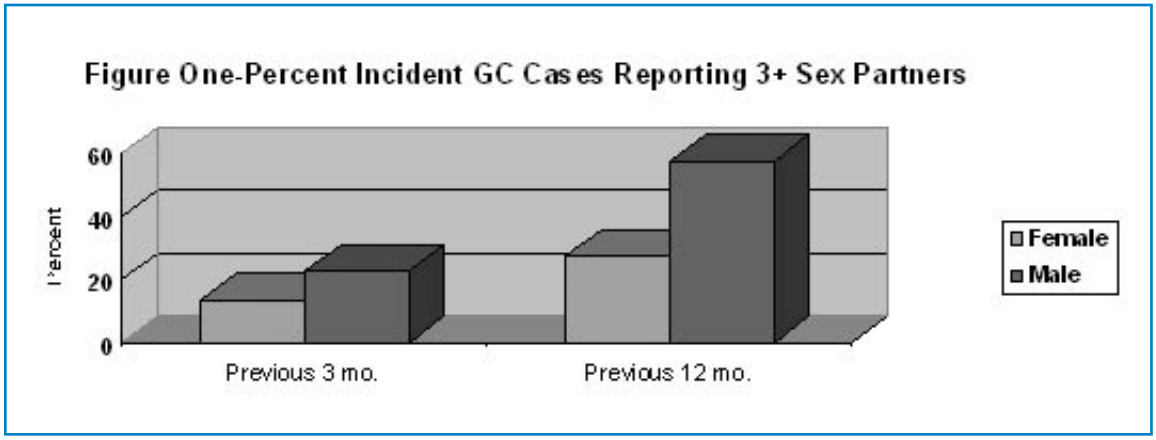
As part of ongoing surveillance in Michigan for the presence of tick-borne diseases, the Michigan Department of Community Health's (MDCH) Bureau of Laboratories and the Michigan Department of Agriculture's (MDA) Pesticide and Plant Pest Management Division can provide identification of ticks removed from either humans or animals in Michigan at no charge. Testing of appropriate live tick species for Lyme disease and Rocky Mountain Spotted fever, another tick-borne disease that can occur sporadically in Michigan, is also available. Testing forms are available on both the MDA and MDCH websites. The MDA form can be located at www.michigan.gov/mda, click on Consumer Information, Human Health, Tick-borne Illnesses, Tick Identification and Testing Form. The MDCH form can be found at www.michigan.gov/mdch, click on Providers, Lab Services, Quality Assurance, Test Request Forms, Microbiology/Virology form. Ticks can be submitted through local health departments, agriculture extension offices, physician offices, and hospitals.

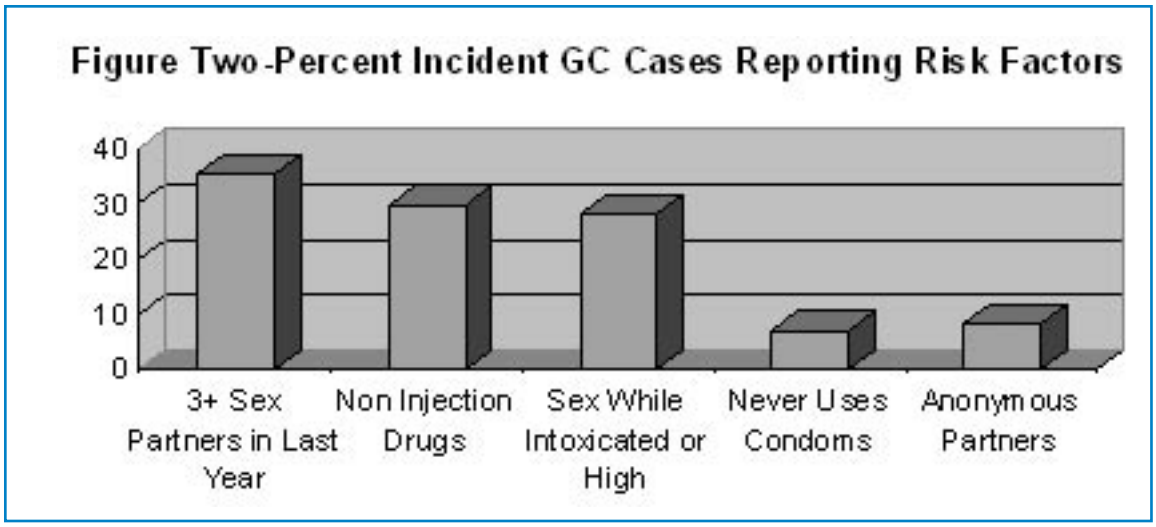
Further questions or concerns about Lyme disease can be directed to the Michigan Department of Community Health, Division of Immunization and Communicable Disease at (517) 335-8165.

Enhanced Behavioral Surveillance of Gonorrhea Infections

By: Katie Macomber, M.P.H.

Currently, behavioral information is not routinely collected by the Michigan Department of Community Health for incident gonorrhea and chlamydia cases. This differs greatly from other communicable diseases which frequently collect data on risk behaviors in order to target interventions and resources. The Michigan Department of Community Health was funded, by the Centers for Disease Control and Prevention, in 2002 as one of nine states participating in the Outcomes Assessment Through Systems of Integrated Surveillance (OASIS) study. This study is designed to collect enhanced behavioral and integrated data specifically on gonorrhea cases (GC).





Data collection began at three large, urban local health department sexually transmitted disease (STD) clinics on August 1, 2003. Clients presenting to STD clinics fill out standardized risk assessment forms as part of the intake process. To date, 147 incident gonorrhea cases (all of the gonorrhea morbidity at those three clinics) have been reported to the HIV/STD and Other Bloodborne Infections Section for analysis of demographic, testing, treatment, and risk factor data. Of the 147 cases, 65% are male, 78% are African American, and the majority (62%) are uninsured. The majority of females were, on average, five years younger than the male clients (54% of females age 19-24 vs. 62% of males age 20-29).

Often there is significant morbidity at STD clinics from patients who have had multiple STD infections. 12% of cases reported having had gonorrhea previously in the last year, and 12% reported having chlamydia in the last year. 38% of clients responded that they had ever had an STD (including gonorrhea, chlamydia, herpes, and HPV). On a more positive note, 66% of clients knew their HIV status and knew it to be negative.

Figures one and two show the percent of cases reporting significant risk factors. Figure one shows the percent of clients reporting three or more partners, stratified by gender and time period. Figure two shows general risk factors associated with increased STD acquisition.

Epidemiological characterization of this population will provide information on the geographic distribution of cases, the gender of sex partners, the site of infection, demographics (education, age), and what risk factors they are engaging in (drugs, exchanging money or drugs for sex). Knowing clients' risk factors allows STD clinic staff to counsel clients about how they can reduce these risks and thus decrease their chance of becoming re-infected with an STD. In addition, information on where cases live and meet partners will enable STD programs to target outreach efforts to high-morbidity neighborhoods and venues.

We are recruiting additional STD clinics for this study and if you are interested in participating or have any questions about this study, please call Katie Macomber at (517) 335-9807 or email at macomberk@michigan.gov.

Recent Presentations

Bridge Patrick, B.A. and Kim Signs, D.V.M., of the Infectious Disease Epidemiology section presented, "The Emerging Disease Issue Website-a Successful Interagency Effort," at the 13th Annual Information Integration Conferene in East Lansing on March 23rd.

Katie Macomber, M.P.H. and Carla Merritt, M.P.H., of the HIV, STD, and Bloodborne Infectious Surveillance section both presented at the National STD Prevention Conference, March 7-11th in Philadelphia. Macomber presented as part of a symposium entitled, "Turning STD Surveillance Data into Action." Merritt presented, "Syphilis in Detroit: Population Dynamics and Effective Interventions."

Matthew Boulton, M.D., M.P.H., presented at the International SARS Symposium at the University of Michigan held January 20th. His presentation, "The Michigan Plan for SARS," focused on how SARS is a case study for bioterrorism and emergency preparedness in Michigan.

Kathy Humphrys and **Glenn Copeland,** of the Vital Records and Health Data and Development section, presented, "An Evaluation of the Relative Risk of Death by Underlying Cause of Death Grouping Among Infants and Children with Reportable Conditions, Michigan Birth Defects Registry Data, 1992 through 2000," as a poster presentation at the Annual National Birth Defects Prevention Network in January.

New Health Disparities Working Group

A Health Disparities Working Group has been created to enhance the ability of the Michigan Department of Community Health (MDCH) to address racial and ethnic health disparities that exist between the various racial and ethnic groups of the Michigan population. The group is being lead by Loretta Davis-Satterla, M.S.A., the Director of the Division of HIV/AIDS and STD and head of the new Office of Minority Health. The Working Group consists of 20 members from various bureaus, divisions, and programs at MDCH. The Working Group will examine state-specific data on health indicators, such as infant mortality, cancer screening and management, cardiovascular disease, violence, diabetes, smoking, HIV/AIDS, and immunization coverage to identify health disparities. The goals of the group are 1) to increase awareness of health disparities by disseminating data and 2) to decrease the burden of disparities by distributing information on public health interventions with proven effectiveness.

Four Bureau of Epidemiology staff, representing Communicable Disease and Immunization, Environmental and Occupational Epidemiology, and Chronic Disease Epidemiology serve on the committee. The following link contains information if you are interested in learning more about the purpose of this working group and of the Office of Minority Health, http://www.michigan.gov/mdch/0,1607,7-132-2940_2955-16949--,00.html.

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