Michigan Department of Community Health
MDCH
Jennifer M. Granholm, Governor
Janet Olszewski, Director

EPI Insight
Bureau of Epidemiology
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What Do We Know About Unwanted Pregnancy In Michigan?

By : Violanda Grigorescu, M.D., M.S.P.H., Amy Schultz, M.D., M.P.H., Cassandre Larrieux, M.P.H., Yasmina Bouraoui, M.P.H., Katherine McGrath-Miller, M.P.A.

Unintended pregnancy accounts for about half of all pregnancies in the United States, and almost a third of those resulting in live births. Women's attitudes toward their pregnancies are currently measured through self-reported responses to survey questionnaires, although these have recognized limitations. The first questions related to assessment of pregnancy intention were incorporated into the National Survey of Family Growth (NSFG) in 1973 and a derivative of these questions continues to be used in the Pregnancy Risk Assessment Monitoring System questionnaire.

The Pregnancy Risk Assessment Monitoring System (PRAMS), administered by the Centers for Disease Control and Prevention, is an ongoing, state-specific, population-based surveillance system of maternal behaviors and experiences before, during, and immediately following pregnancy. The PRAMS questionnaire includes core questions that are asked by all the states and state-specific questions that are chosen or developed by each of the participating states. The core of the questionnaire includes questions about: attitudes and feelings about the most recent pregnancy, content and source of prenatal care, maternal alcohol and tobacco consumption, physical abuse before and during pregnancy, pregnancy-related morbidity, infant health care, maternal living conditions, and the mother's knowledge of pregnancy-related health issues, such as adverse effects of tobacco and alcohol, benefits of folic acid, and risks of HIV.

This study examined the demographic characteristics and use of contraceptive methods in women with unwanted pregnancies as a subset of unintended pregnancy by using 1996-2000 MI RAMS data. The question regarding unintended pregnancies was further categorized into "mistimed" (desired later), or "unwanted" (not wanted then or at any time in the future) pregnancies. Population frequency estimates and Chi Square analyses measured the differences in the characteristics of women with unwanted vs. mistimed pregnancies. Based on the answer to the question "when you got pregnant with your new baby were you and your partner doing anything to keep from getting pregnant", women with unwanted pregnancy were categorized as: "contraceptive failures" ("yes") or "non-users" ("no"). This categorization did not distinguish between those who used their method correctly and consistently and those who did not.

The estimated prevalence of unintended pregnancies was 42.4% in Michigan during the study period. Among these unintended pregnancies, 72.9% were "mistimed," and 27.1% "unwanted". Women with unwanted pregnancies were more likely Black, young, unmarried, less educated, multiparous, on Medicaid, smokers, and had less than adequate prenatal care compared to those with mistimed pregnancies. An estimated 55.8% of women with unwanted pregnancies were non-users of pre-conceptional birth control methods while 44.2% used some birth control method at the time of conception and were defined as contraceptive failures. Significantly higher proportions of contraceptive non-users were seen in the primiparous (72.3±4.0%), non-married (64.6±2.8%), and women enrolled in Medicaid (64.4±3.5%). In contrast, among multiparous women and women over age 34, at least half (50.1±2.7% and 58.8±5.6% respectively) used a birth control method at the time of

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A Possible Ban on Lindane in Michigan

By: Abby Schwartz, M.P.H.

Recently, the Michigan Department of Community Health (MDCH) received a petition for rulemaking to ban the sale, use, and prescription of any product containing lindane in Michigan. Lindane is a pesticide used in agriculture and as a prescription pediculocide lotion or shampoo. Most human exposure is due to prescription use. On May 6, 2004, MDCH Director Janet Olszewski received a petition from a coalition of environmental and medical groups requesting her to conduct rulemaking to ban lindane use in the State of Michigan. The rationale for this request is that lindane is persistent, bioaccumulative, toxic, and alternative treatments for lice and scabies exist that are safer and more effective. The MDCH Office of Legal Affairs determined that the Department has no statutory or regulatory authority to promulgate such a rule, but the petitioners were encouraged to look to the legislature to enact a statutory ban of lindane. If they choose to take this approach, MDCH is prepared to provide its assessment of the public health significance of lindane use in Michigan and the impact of a ban, as part of the legislative process. A summary of the issue follows.

Lindane (gamma-hexachorocyclohexane or gamma-benzene-hexachloride) is an organochloride insecticide approved as a pharmaceutical agent for second line therapy in the treatment of scabies, head lice, and pubic lice. Lindane is currently available only by prescription, as a 1% lotion for scabies and 1% shampoo for the treatment of pediculosis. It has a cure rate ranging from 85% to 98% for scabies[1] but is generally considered the least effective pesticide treatment for lice.[2]

Adverse health effects of lindane range from skin irritation to neurological effects such as dizziness or seizures to death. Most adverse effects have occurred after incorrect usage, but nearly 20% of documented serious outcomes occurred in patients who had applied the product correctly.[2] Children, the elderly, and patients weighing less than 50 kg are most likely to experience adverse effects.

In 2002 the FDA did a review of lindane, searching the Adverse Events Reporting System (AERS) database for reports of adverse events associated with lindane. From 1974 to 2002, there were 488 reports with the most common being "drug ineffective," followed by convulsions, dermatitis, and dizziness. A review of the most serious cases described 15 deaths, 46 hospitalizations, seven life-threatening outcomes, and six cases of congenital anomalies. It was determined by the agency, however, that there is a "public health benefit to having several treatment options for a condition where a patient may require re-treatment with a different therapy" and lindane products were not taken off the market. Instead, the FDA issued a Public Health Advisory concerning the use of lindane.

After receiving the request to ban the use of lindane in Michigan, the Division of Environmental and Occupational Epidemiology requested information from the Michigan Poison Control Centers to assess lindane's impact on Michigan residents. In 2003 and the first quarter of 2004 the Poison Control Centers received 22 calls related to lindane use. Of the 22 calls, one exposure resulted in what was classified as a moderate health effect. The individual washed someone else's hair with lindane shampoo and then developed tachycardia, shortness of breath, and chest pain. There were four exposures resulting in minor effects and twelve with no effect. Four were not followed (minimal clinical effects possible), and one had unrelated effects (lethargy and hallucinations). Most of the calls were due to improper use, which is consistent with other reports. There were eight (36%) cases of young children accidentally ingesting lindane and six (27%) instances where lindane was given/taken instead of another medication (e.g., cough syrup).

Based on our research, MDCH Division of Environmental and Occupational Epidemiology would recommend that the Department support legislation to ban prescription use of lindane for the above reasons. Namely, it is highly neurotoxic; alternative treatments, which are as effective or more effective and much less toxic than lindane, exist. Adverse effects can occur even when lindane is applied correctly.

Lindane use is believed to be common in Michigan. A survey of three large pharmacy chains (Meijer, RiteAid, and Walgreens) found they filled 2,220 prescriptions of lindane lotion and 4,622 of lindane shampoo in Michigan in 2003. In addition, although the FDA recommends lindane not be used on children under 50 kg, we believe it is being used on children in Michigan. We intend to examine Medicaid prescription data to estimate the magnitude of the problem.

Finally, a major source of lindane in the environment is wastewater from washing off the lindane lotion and shampoo. A single treatment for lice or scabies can pollute six million gallons of water. Conventional water treatments do not effectively remove lindane from contaminated water.

If Michigan banned the pharmaceutical use of lindane, it would be only the second state to do so, after California. Environmental factors were a major reason for the ban in California. Nearly all of the lindane entering the sewage system in California was coming from pharmaceutical use.[2] Since the January 2002 ban in California, levels of lindane

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[1] Richey HK, Fenske NA, Cohen LE. Scabies: diagnosis and management. Hosp Pract (Off Ed). 1986 Feb 15; 21 (2):124A-124C, 124H, 124K-124L passim.

[2] Meinking TL, Serrano L, Hard B, Entzel P, Lemard G, Rivera E, and Villar ME. Comparative In Vitro Pediculicidal Efficacy of Treatments in a Resistant Head Lice Population in the United States. Arch Dermatol 2002 Feb; 138(2): 220-224

A Case Study

"A Case Study" is a new feature in Epi Insight that will highlight either a fictitious or factual investigation, which, while educational, will also highlight some of the less obvious investigations encountered by the Bureau of Epidemiology and our local public health and clinical providers. The Epi Insight Committee would like to thank Sally Bidol, Communicable Disease Epidemiologist, for her ideas and oversight of this new feature. Below is a clinical investigation. Please read through the investigation and try to analyze not only what the diagnosis may be, but also, what makes it complicated. The conclusions of the study are included in this edition of Epi Insight, on page 8.

A 68-year-old male presented to his primary care physician complaining of right lower quadrant pain, which was thought to be related to constipation and improved with an intensified bowel regimen. He then presented to the emergency department two weeks later complaining of several days of anorexia and nausea associated with two days of dark urine. His wife also noted intermittent confusion. His abdominal pain had not returned, however, the emergency department found him to have a bilirubin of 9.3 mg/dL. He was admitted to the hospital for a complete workup. Upon admission, he was noted to be intermittently febrile, as high as 40.4 degrees Celsius.

His current medications include Nifedipine, Aspirin, Lisinopril, Pantoprazole, and Folic Acid. He has no pets and denied recent travel or sick contacts. He smokes cigarettes (one pack per day for 20 years) and actively injects heroin. He denies sharing needles or alcohol use. His past medical history includes diabetes mellitus, gout, nephrolithiasis, hypertension, depression, chronic Hepatitis B, a stroke two years ago with residual left hemiplegia, and injection drug use.

His physical examination shows a pulse of 70/min and a respiratory rate of 24/min. His blood pressure is 107/55 mm Hg and temperature is 40.4 C. He has icteric sclera. Neck is supple with no adenopathy. Abdomen is soft, non-tender, normal bowel sounds, no organomegaly, heme-positive dark brown stool.

Laboratory data shows: Hematocrit 36.3%, Platlet Count, 175,000/mm3 , Neutrophils, 52%, Bands, 6%, Lymphocytes, 22%, Monocytes, 20%, AST 1850 IU/L, ALT 2113 IU/L.

The physician is considering the following diagnoses: Acute Hepatitis A Virus, Acute Hepatitis C Virus, Acute Hepatitis D Virus, Leptospirosis, Tylenol toxicity, ethanol toxicity, Epstein-Barr virus, Cytomegalovirus, or Acute Retroviral Syndrome.

What diagnosis do you believe to be correct?

Recent Presentations

Shannell McGoy, M.P.H. the HIV Behavioral Coordinator located in Detroit with the HIV/STD and Bloodborne Infections Surveillance Section presented "Interesting Issues Affecting Our Risk and Survival of HIV/AIDS" at the Minority Women's Health Summit August 12th-15th in Washington, D.C.

Glenn Copeland, M.B.A., of the Vital Records and Health Data and Development section presented "A Different View of Birth Defects as a Cause of Mortality: Using Birth Defects Registry Data to Evaluate the Full Effect of Birth Defects on Infant and Childhood Mortality, to Examine the Relative Risk of Mortality and Determine the Cause of Death Distribution among Children with Birth Defects" at the Biennial Conference of the National Center on Birth Defects and Developmental Disabilities held July 26th-28th in Washington, D.C.

"What Do We Know…"
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conception. No significant differences were seen in contraceptive use by race.

Women with unwanted pregnancies had different characteristics compared to those with mistimed pregnancies. Primiparous, unmarried, or enrolled in Medicaid were found as non-users of contraception compared to multiparous women categorized as contraceptive failures.

Tailored family planning services to women who never gave birth, are unmarried or enrolled in Medicaid along with education on appropriate contraceptive use postpartum are needed for the reduction of unwanted pregnancies. These unwanted pregnancies are more challenging for women and their offspring than the mistimed, leading to adverse birth outcomes such as low birth weight, small for gestational age, or premature birth. Improving family planning services to better meet the needs of all women of reproductive age is a public health priority in Michigan.

"A Possible Ban on Lindane…"
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found in Los Angeles County Sanitation District water treatment plants have dropped significantly. Persons from the Los Angeles County Department of Health Services Acute Communicable Disease Control Unit, the California Medical Association, the California District of the American Academy of Pediatrics, the California Pharmacists Association, Kaiser Permanente, and the California Department of Corrections were all asked about the repercussions of the ban on lindane and reported no problems.

For more information, contact Abby Schwartz at (517) 335-9684 or schwartza@michigan.gov.

The First Border Health Conference

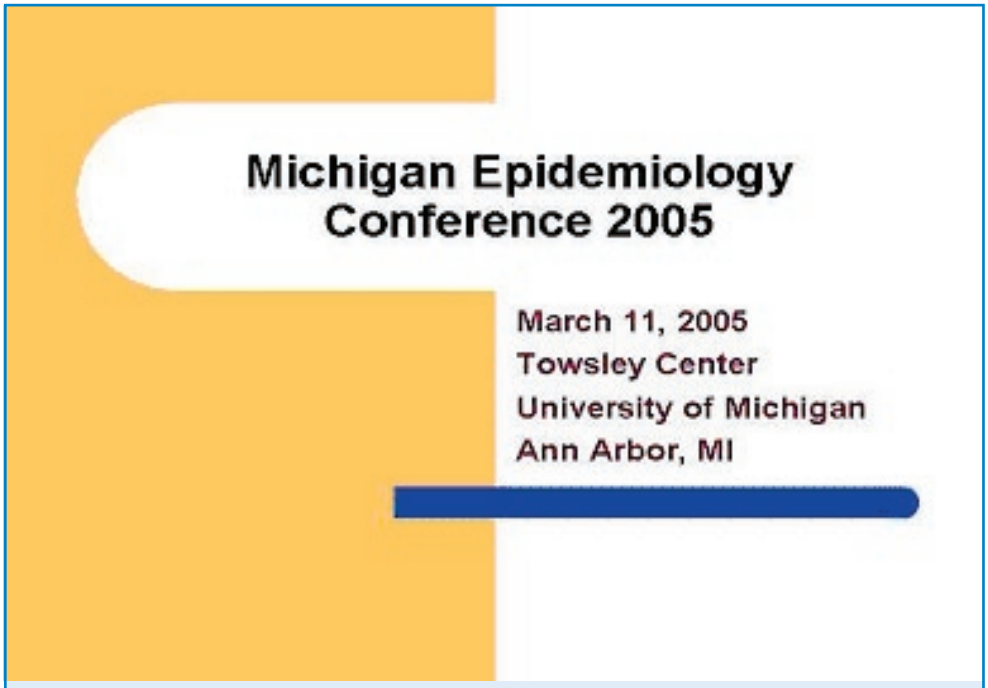
By: Kathy Allen-Bridson, R.N., B.S.N., C.I.C.

On September 9-10, 2004 the first Michigan-Ontario Border Health Conference was conducted in Detroit, Michigan and attended by over 120 American and Canadian public health professionals. The two-day meeting included information on public health systems and collaborations between Michigan and Ontario and offered an opportunity for attendees to learn the results of the binational public health survey, which was funded and developed through the initiative. Among the most important issues identified by the survey were:

- The past three years have dramatically changed emergency preparedness and health responses in both public health systems.
- Basic questions exist about how, when and whether to share information across the border. Protocols need to be developed in advance to answer these questions.
- There is increased emphasis placed on planning, training and exercises which often require dedicated roles.
- Considerable numbers of staff that cross the border to work. This would cause concern for staffing health care facilities in the event of border-crossing slowdowns.
- There is an identified need for cross border Memorandums of Understanding or mutual aid pacts.

Conference attendees recommended the development of five Working Groups: Direct Care, Communications/Data Sharing/Information Technology, Laboratory, Emergency Response, and Legal. Each Working Group will have Michigan and Ontario co-leaders and work towards goals identified at the conference.

In the fall of 2005, the Second Annual Michigan-Ontario Border Health Conference will present information on working groups' progress, remaining barriers and testing systems through the use of table-top exercises. The Surveillance Systems Section of the Bureau of Epidemiology, Michigan Department of Community Health is responsible for the Border Health Initiative.



SAVE THE DATE!

March 11, 2005

4th Annual Michigan Epidemiology Conference

The Epidemiology Section of the Michigan Public Health Association will be holding its 4th annual conference at the Towsley Center in Ann Arbor.

The conference will include:

- **Keynote address: Centers for Disease Control and Prevention**
- **Presentations by representatives from UM and MSU**
- **Breakout sessions**
  - **infectious disease**
  - **environmental/occupational injury/illness**
  - **chronic disease/maternal & child health**
  - **careers in epidemiology - networking opportunity for students**
- **Poster presentations**

Local Health Departments Receive Awards

By: Jennifer Beggs, M.P.H.

The Huron and Tuscola County Health Departments received a certificate of achievement on May 20, 2004 at the Gaylord location of the Fourth Annual Michigan Communicable Disease Conference for their prevention and control efforts in a 2003 middle school tuberculosis investigation.

On May 20th of this year, the Tuscola and Huron County Health Departments received a certificate of achievement at the Gaylord location of the Fourth Annual Michigan Communicable Disease Conference. The health departments were recognized for their cooperation in performing outstanding tuberculosis prevention and control activities. In early October 2003, a Huron County middle school teacher was diagnosed with active tuberculosis. While the school system was located in Huron County, the teacher was a resident of Tuscola County. During the subsequent contact investigation, 670 persons throughout the school system and 67 close contacts were tested for TB. Two additional cases of active disease were identified, one of which was a student at the school. Multiple meetings were held between the health departments, parents, school administrators, and health officials to discuss post-exposure follow-up.

The Livingston County Health Department was awarded a certificate of achievement on May 25, 2004 at the Lansing location of the Fourth Annual Michigan Communicable Disease Conference. During June 2003, the Livingston County Health Department conducted a monkeypox-associated traceback of an exotic pet animal recently purchased at a swap meet. The animal was a young wallaby that was part of a private petting zoo located on the premises of a private residence. During the course of the traceback investigation, an apparent foodborne outbreak associated with the wallaby was also discovered. The wallaby eventually tested negative for monkeypox, but was found to be infected with the outbreak strain of Salmonella Enteritidis causing the human illnesses. Livingston County Health Department was a key contributor to the multi-state effort to confront another emerging disease threat to the public as well as animal health in Michigan and the nation.

Please join the Michigan Department of Community Health in commending these health departments for their exemplary efforts in protecting the public health of Michigan's citizens.

The Livingston County Health Department received a certificate of achievement on May 25, 2004 at the Lansing location of the Fourth Annual Michigan Communicable Disease Conference for their investigation efforts involving a multi-state exotic animal traceback as part of a monkeypox outbreak investigation.

Recent Publications

Wells, E., Boulton, M., Hall, W., and **S. Bidol.** Reptile-Associated Salmonellosis in Preschool-Aged Children in Michigan, January 2001-June 2003. *Clinical Infectious Diseases,* 2004; 39: 687-691.

Vasiliu, O., Muttineni, J., and W. Karmaus. In Utero Exposure to Organochlorines and Age at Menarche. *Human Reporduction,* 2004; 19(7): 1506-1512.

Enger, K., Ordonex, R., Wilson, M., and J. Ramsey. Evaluations of Risk Factors for Rural Infestations by Triatoma pallidepennis (Hemiptera: Triatominae), a Mexican Vector of Chagas Disease. *Journal of Medical Epidemiology,* 2004; 41(4): 760-767.

Crist, A., Morningstar, C., Chambers, R., Fitzgerald, T., Stoops, D., Reyes, Y., Hiden, T., Sullivan, J., Hawk, D., Lurie, P., Moll, M., Yeager, S., Lind, L., Burkee, J., Warren, K., Marcus, M., Davidson, H., Thomas, S., Herwaldt, B., Hlavsa, M., Jonston, S., Bishop, H., daSilva, A., Hightower, A., and **D. El Reda.** Outbreak of Cyclosporiasis Associated with Snow Peaks-Pennsylvania, 2004. *Morbidity and Mortality Weekly Review,* 2004; 53(37): 876-878.

Employee Focus-Garry Goza

Garry Goza began his career in public health twenty-three years ago after obtaining his M.S. degree from the University of Detroit. He began his work here at the Michigan Department of Community Health (MDCH) in the former Bureau of Health Facility Licensing and Certification and later in the Bureau of Community Services specializing in hypertension prevention and multicardiovascular disease prevention and control. Goza then became a part of the Communicable Disease Section in the Bureau of Labs and Epidemiological Services over the AIDS surveillance group. At that time in AIDS surveillance, there were only two employees and one computer for the entire section. However, in 1992, the Centers for Disease Control and Prevention funded Michigan to do active HIV Surveillance in addition to AIDS, which doubled the staff. Goza also collaborated with other laboratory and program staff on the CDC Family of HIV Serosurveys and the Survey of HIV in Childbearing Women where over 180,000 specimens collected for other diagnostic reasons were tested each year for estimates of statewide HIV seroprevalence. With Goza as manager, the group has continued to grow and became a separate section from the Infectious Disease Epidemiology Section. Goza now manages thirty employees in two offices. In addition to HIV, the Section now includes surveillance and epidemiology responsibilities for hepatitis and the other STDs.

What makes Goza truly a manager is the amount of time he spends on human resources and administrative issues. The HIV/STD and Bloodborne Infections Surveillance Section is 100% federally-funded. Goza manages three major grants, including the Core HIV Surveillance grant, the Clinical Morbidity and Monitoring grant, and a STD Epidemiology grant. Involved in those cooperative agreements are budgets, progress reports, amendments, and post award subcontracts. Also, Goza manages employment contracts with the Michigan Public Health Institute, and the Southeast Michigan Health Association.

Goza views one of his greatest accomplishments as driving the section, in 1992, to pursue a grant for HIV surveillance. At the time, the section was only getting case reports for AIDS cases in Michigan. Goza believes that without that money for the State to pursue HIV surveillance, we would be behind in terms of characterizing the HIV epidemic in Michigan. As new treatments for infected people are developed, people began living longer with HIV disease and not developing AIDS.

Goza has many hobbies including camping with the family in a newly-acquired RV with his grandchildren, traveling, music, refinishing furniture, and antiquing. He lives in Flushing with his wife, Marjorie. They have a daughter, Nicole, two grandchildren, Micah (9) and Papi (5), and a black cat named Spike.

Farewell Dr. Boulton

Dr. Matthew Boulton, the Bureau of Epidemiology's Chief Medical Executive and State Epidemiologist recently took a new position with the University of Michigan School of Public Health as Associate Dean of Public Health Practice. Dr. Boulton will continue to serve as a resource for the Bureau and will provide expertise around epidemiological issues of national importance, and to assist in the development of public health surveillance systems. We wish him well in his new endeavor at the University of Michigan School of Public Health. His influence and guidance at the Bureau of Epidemiology will be greatly missed.

In the interim, Dean Sienko, M.D., M.S., the current Medical Director of the Ingham County Health Department will be providing the Bureau of Epidemiology with medical consultation. Thank you Dr. Sienko for filling in!

Dr. Corinne Miller has assumed the responsibility of acting State Epidemiologist and Bureau Director during the interim period in which the Bureau will recruit and fill the position of State Epidemiologist and Chief Medical Executive.

Dr. Melinda Wilkins has assumed the responsibility of acting Division Director of the Communicable Disease Division.

Jim Collins, R.S., M.P.H. has assumed the responsibility of acting Surveillance Systems Section Manager.

Best wishes, Dr. Boulton, on your new endeavors and thank you to Doctors Sienko, Miller, and Wilkins, and to Jim Collins for providing leadership during this time of transition.

WWW.MICHIGAN.GOV/INFLUENZA

The Immunization Division in the Bureau of Epidemiology has a new website for information on influenza. The website, www.michigan.gov/influenza, has the latest news releases and recommendations from the Michigan Department of Community Health, information for health care providers, and information for the public. You will also find not only Michigan influenza sentinel surveillance data, but also links to national flu activity data. Links to flu information at the Centers for Disease Control and Prevention and the World Health Information are included on the website. There are several recent important press releases on the website, including the October 15th Public Health Order Conserving Influenza Vaccine For High Priority Populations. Please check this website regularly as flu activity in Michigan and vaccination information will be updated often.

MDCH Expert Supports Hurricane Relief Efforts in Florida

Michigan Department of Community Health (MDCH) Infectious Disease Epidemiologist Jennifer Beggs was called upon to lend assistance in the hurricane relief efforts in Florida. Beggs works for the Infectious Disease Epidemiology Section in the Bureau of Epidemiology.

"The Department of Community Health is proud to lend our highly skilled specialists to other states in their time of extreme need," said Janet Olszewski, MDCH Director. "Our public health experts are some of the best in the nation, and I am pleased that Jennifer could share her knowledge and experience to help our fellow citizens in Florida."

Deployed as part of a state team on September 7, Beggs spent two weeks in Florida with colleagues from the Michigan State Police, Michigan Department of Transportation, and the Family Independence Agency. The group was able to assist the state of Florida and the Federal Emergency Management Agency (FEMA) with operations, planning, emergency services, and human services in the areas worst hit by the multiple hurricanes.

"We were able to provide assistance all over Florida – from Punta Gorda to Pensacola, and Orlando to Tallahassee – we saw some of the most seriously damaged areas," Beggs said. "The group was assigned a variety tasks. We performed community and environmental assessments, connected citizens with charitable organizations and shelters, passed out information, and ensured safe drinking water was available."

Beggs, a 2002 Masters of Public Health graduate from the University of Michigan, has previously been involved in emergency management situations, but said she felt that this opportunity was an invaluable learning experience.

"Being on the front line and working closely with FEMA and the Florida Emergency Operation Center, I was able to see firsthand how important it is to prepare for potential disasters and emergencies," Beggs said. "It was interesting and beneficial to see how all of the pieces came together to help the citizens of Florida."

The group of State of Michigan experts were sent to Florida under the authority of the Emergency Management Assistance Compact (EMAC). The EMAC is an interstate mutual aid agreement that enables states to share resources during times of disaster. Michigan began participating with EMAC in January 2002 and this is the first time the state has provided assistance under the compact.

Profiles in Occupational Injuries and Diseases in Michigan Report

Data are available on the magnitude of work-related injuries and illnesses in Michigan from a variety of sources. For the first time, these data have been compiled into a single publication. The Profiles in Occupational Injuries and Diseases in Michigan report, prepared by the Division of Environmental and Occupational Epidemiology in collaboration with Michigan State University, presents statistics on the magnitude and trends in work-related injuries and illnesses and makes recommendations for actions that would contribute to reducing the burden of these conditions in the future.

Subjects (all work-related) addressed in the report include: fatal and non-fatal injuries, muscoloskeletal disorders, asthma, lead poisoning, pneumoconiosis, communicable disease, lead poisoning, pesticide poisoning, noise-induced hearing loss, cancer, and skin diseases.

Some notable findings include:

- In 2001, on average, one worker died nearly every two days of an acute, work-related injury. The fatal work-related injury rate for Michigan was lower than the national rate for the preceding ten years.
- Although Michigan's non-fatal injury rate declined 32% between 1992 and 2001, it exceeded the national rate throughout this timeframe.
- Seventy percent of interviewed adults with elevated blood lead levels experienced symptoms at blood lead levels allowed by the current workplace safety regulations.
- Michigan is the only state in the U.S. with a system to track occupational noise-induced hearing loss. The Michigan work-related noise-induced hearing loss surveillance system, established in 1992, identified 20,731 cases through 2001.

The Profiles report also makes specific recommendations based on the data presented, such as recommending development of a strategic plan to address noise-induced hearing loss, establishing mandatory reporting requirements for cadmium, mercury and arsenic blood/urine test results, and reassessment of the MIOSHA health standards for lead. It also points out the need to further investigate reasons for Michigan's elevated injury rate and, specifically, the rate for disorders due to repeated trauma.

To view the full Profiles report, go to www.michigan.gov/mdch-toxics and click on "Reports and Publications." For more information, contact Martha Stanbury at 517-335-8350.

New Employees

Ahmed Jamal, M.B.B.S, M.P.H., is a new Maternal and Child Health Epidemiologist in the Division of Epidemiology Services. He will be primarily working on data warehousing for Medicaid data and work with the Maternal and Child Health Block Grant. Jamal has a medical degree from the University of Dhaka, in Bangladesh and a Masters in Public Health in Epidemiology from the University of Hawaii. He has previously worked for the International Center for Diarrheal Disease Research in Bangladesh, the Hawaii Health Department, the International Development Research Center, and in various roles for the IT industry as a database programmer.

Eden Wells, M.D., M.P.H., is a new Communicable Disease Physician in the Surveillance Systems Section. Wells received her M.D. from Ohio State University and completed an Internal Medicine residency at Vanderbilt University. She also completed a Preventative Medicine Residency at the University of Michigan and obtained her M.P.H. in Epidemiology. She has previously worked as an internist for the Indian Health Service in Montana. Wells will be working on communicable disease issues and bioterrorism preparedness.

Gail Denkins, R.N., B.S. is the new Regional Nurse Consultant for southeast Michigan in the Tuberculosis Control Program, Infectious Disease Epidemiology Section. Gail has previously worked for the Branch-Hillsdale-St. Joseph Community Health Agency.

Rupali V. Patel, M.P.H., recently received her M.P.H. in Hospital and Molecular Epidemiology from the University of Michigan School of Public Health. She also participated in the genetics interdepartmental concentration. She recently joined the Epi Services Division as a new Maternal and Child Health Epidemiologist working on the Pregnancy Risk Assessment Monitoring System and Birth Defects Epidemiology.

Shannon Andrews, M.P.H., is the new Prion Disease Epidemiologist in the Infectious Disease Epidemiology Section. Andrews has a B.S. in Microbiology and a M.P.H. in Epidemiology, both from the University of Michigan. She previously worked as a clinical trial coordinator focusing on HPV infection at the University of Michigan Department of Family Medicine.

Carole Eberle is the new Surveillance, Epidemiology, and End Results (SEER) Coordinator for the tri-county Wayne, Oakland, and Macomb areas. Her role will be to enhance coordination between the State Tumor Registry and the Detroit Metropolitan Cancer Surveillance System. She will be stationed at the Detroit office of the Detroit Metropolitan Cancer Surveillance System. Eberle has a Bachelor of Business degree from Elmhurst College and is a Certified Tumor Registrar, a Registered Health Information Administrator, and a Registered Health Information Technician. She has operated four different hospital cancer registries.

The Answer: A Case Study

Laboratory results show HDV antigen positive, HDV antibody negative, HIV antibody and RNA negative, HAV IgM negative, HCV antibody negative, HbC IgM negative, Anti-HbSAg negative, HbC IgG positive, and HbSAg positive. Therefore, the patient was diagnosed with acute Hepatitis D superinfection in the setting of chronic Hepatitis B. The patient was released with Lamivudine 100 mg daily for one year.

Hepatitis D is a defective RNA virus that uses Hepatitis B surface antigen for its structure protein shell. The epidemiology of HDV is not understood but it is estimated that among the 300 million worldwide HbsAg carriers, nearly 5% are infected with HDV. Transmission modes are similar to HBV, bloodborne via injection drug use, blood product transfusion, intimate or sexual contact, and maternal-neonatal transmission. HDV has been identified in nearly all parts of the world, most commonly in the Balkans, European regions of the Soviet Union, southern Italy, central Africa, the Middle East, and the Amazon basin.

When acute hepatitis (including Hepatitis A) occurs in the setting of a chronic HBV infection, the acute disease is more likely to be severe and chronic. Progressive hepatitis is more frequent in acute HDV/HBV co-infection. Acute HDV infection tends to be a severe illness with a mortality of 2-20%. Treatment for HDV is mainly supportive. Liver transplantation may be considered in patients with fulminant hepatitis. Antivirals, like Lamivudine, have been shown to have positive effects on HBV/HDV DNA and ALT levels. There is presently no HDV vaccine.

Reference: Johns Hopkins Infectious Disease Case Rounds
http://hopkins-id.edu/education/id_caserounds/caserounds26.html

EPI INSIGHT is published quarterly by the Michigan Department of Community Health, Bureau of Epidemiology, to provide information to the public health community. If you would like to be added or deleted from the EPI Insight mailing list, please call 517-335-8165.

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