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

EPI Insight
Bureau of Epidemiology
Fall 2007

Multijurisdictional Outbreak Investigation Associated with Stay at an Area Nature Center

Susan Bohm, MS, Joyce Lai, MPH, Carla Marten, MPH

On Thursday, April 19th, 2007, the Livingston County Department of Public Health (LCDPH) received a call about a possible foodborne illness among students who had attended a local nature center on Tuesday, April 17th, 2007. The caller reported that she, her daughter, and a friend of the daughter's, all members of a Wayne County school group, had become ill shortly after consuming a meal at the nature center. Symptoms included abdominal cramps, vomiting, diarrhea, and nausea.

The following morning the center's Director contacted the LCDPH to report that approximately 70 guests (mainly 4th – 6th grade students) visiting the center had become ill with vomiting and diarrhea. The ill students were from Wayne, Oakland, and Monroe counties. LCDPH obtained from the center a list of all visiting school groups the week of April 16th – April 20th. Groups were from inside and outside Michigan, but only southeastern Michigan students were affected. LCDPH contacted the Michigan Department of Agriculture (MDA), the Michigan Department of Community Health (MDCH), and the three affected Michigan county health departments to inform them of the outbreak. A multijurisdictional investigation was initiated; LCDPH conducted the site environmental assessment while Monroe, Oakland, and Wayne Counties each performed epidemiological investigations.

The nature center offers overnight camping for school groups. Students and chaperones are assigned to one of eight available cabins. There is a main dining hall, where most of the meals are prepared and served. Some cabins are also equipped with kitchenettes. Students had the option of eating their meals at the main dining hall or back at their cabins. Given the scope of the outbreak, the center voluntarily closed from April 20th to April 25th for cleaning. LCDPH provided them with the MDA/MDCH norovirus environmental cleaning guidelines. (http://www.michigan.gov/documents/Guidelines_for_Environmental_Cleaning_125846_7.pdf)

A case–control study was undertaken to determine whether illness was associated with lodging or with any food items provided at the camp. A case was defined as anyone who visited the center between April 16th and 20th, 2007 and experienced vomiting and/or diarrhea during their stay or within three days of the visit. A control was defined as anyone who visited the center during that time but did not have any symptoms. The Oakland County Health Division (OCHD) prepared the questionnaire and shared it with the other local health departments (LHDs). Participating LHDs interviewed onsite center staff, visiting students, chaperones, and staff from the school groups. Data collected from all participant interviews were pooled for the final analysis.

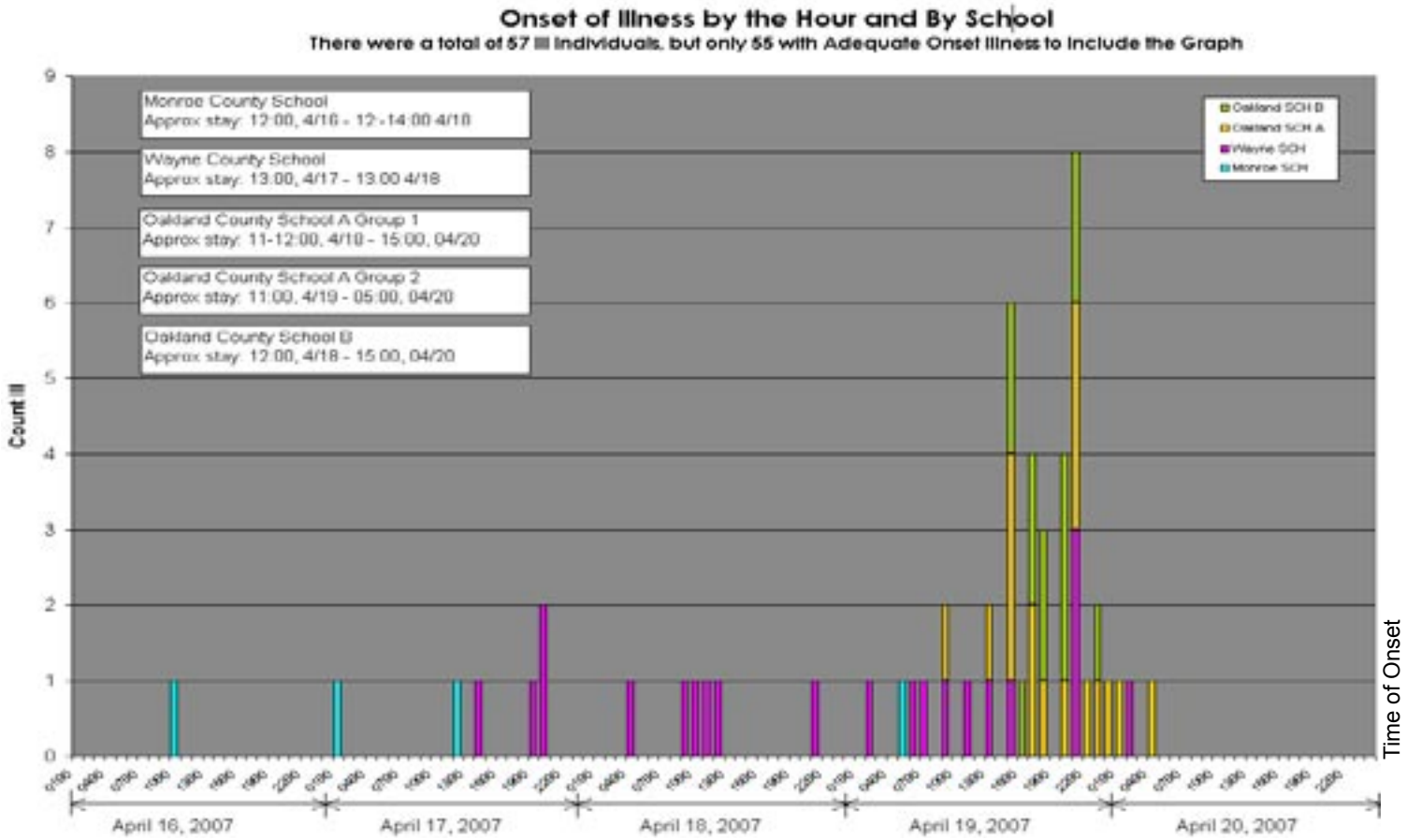
A total of 150 individuals were interviewed: 57 cases, 71 controls, and 22 did not meet the case or control definitions. Graph 1 provides an epidemic curve of the outbreak broken down by school and county. Study participants ranged in age from 10 to 49 years; median age of both cases and controls was 11 years. The average duration of illness was 25.9 h, and the median was 15 h (n=43). Females

continued on page 2

TABLE OF CONTENTS

DCH-0709 (Rev. 8/02)

continued from page 1



Graph One: Onset of illness by Date/Hour and School in April 2007

comprised 55.1% of all respondents (cases, 57.1%; controls, 53.5%). Illness onset ranged from April 16 to April 20. Eighty-six percent of cases reported vomiting.

Multiple vomiting incidents between April 16th and 20th were reported among camp attendees over the course of the investigation. The first incident occurred in one of the cabins the evening of April 17th. More children were ill later that evening. Campers and chaperones in school groups that arrived at the camp on April 18th also became ill. The environmental investigation revealed that (i) no kitchen staff at the center were ill prior to the campers' visit and (ii) the center staff had cleaned the physical evidence of vomitus in the cabin with an ineffective quaternary ammonia solution and an inadequately low concentration of chlorine bleach. LCDPH also performed a follow-up inspection of the camp before it reopened.

Several food items served at the center were statistically significantly associated with illness. Rice Krispies Treats™ consumed on April 18th had an odds ratio (OR) of 3.75 (95% confidence interval (CI): 1.2, 10.6). It is possible the prepackaged treats were contaminated by ill or recovering cases. Conversely, eating salad with dinner on April 19th had a protective effect (OR: 0.41; CI: 0.2, 0.9). In the cabin analysis, campers who stayed at cabin G were less likely to become ill (OR: 0.21; CI: 0.1, 0.6); while on the other hand, the odds of staying in cabin L (where vomiting was reported to have occurred) were almost five times greater for cases than controls (OR: 4.9; CI: 1.9, 12.8). Another analysis looked at the date of the overnight stay. Cases were three times more likely to have stayed overnight on April 17th than controls (CI: 1.3, 6.9).

After completion of the interviews, analysis and environmental investigation, norovirus was suspected as the most likely causative agent based on the food consumed, symptoms, potential means of transmission, onset time and duration. Laboratory results later confirmed this hypothesis. Six specimens were tested by PCR assay for norovirus identification; five tested positive for norovirus genotype G1. Illness with norovirus usually presents as self-limiting vomiting and diarrhea and is spread through close contact with infected persons (e.g., by sharing food, water, or eating utensils) and by touching surfaces contaminated by vomit or feces of ill persons. Incubation is usually 24-48 hours and the duration of symptoms ranges from 24-48 hours. The virus can be excreted for 5–7 days after onset of symptoms. Infected persons usually recover with no serious or long-term problems (Heymann, David L., Control of Communicable Disease Manual, APHA, 2004).

continued on page 3

Vaccinate Staff Against Influenza

Unvaccinated health care personnel are a key vehicle for the transmission of influenza in health care settings. You and your staff have close, frequent contact with high-risk patients. Research has shown that many HCP continue to work while experiencing pre-clinical, asymptomatic, or even symptomatic influenza infections. The Centers for Disease Control and Prevention (CDC) recommends that all HCP get a yearly flu vaccine. Despite these recommendations, only 42% percent of United States HCP are vaccinated against influenza (CDC, unpublished data, 2006)[1].

Reducing influenza transmission from HCP to patients has become a top priority in Michigan. To support this effort nationally, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has developed an accreditation requirement for influenza vaccination to be offered to all staff and licensed independent practitioners effective January 1, 2007[2].

How Does the Flu Impact Health Care Facilities?

- Sixty-five residents of a long-term care facility in New York developed influenza. Over half developed pneumonia, 19 were hospitalized and one died.[3]
- In a flu outbreak in an internal medicine ward in 1999, 23% of staff became ill, resulting in:[4]
  - 14 days of staff sick leave
  - Cancellation of eight scheduled admissions
  - Suspension of emergency admissions for 11 days
  - Average additional cost per patient of $3,798
  - Total cost of $34,179
- When regular staff become ill, double-shift or pool workers are hired. Hiring replacement workers often means assuming additional costs beyond those associated with salary.
  - Studies show that using pool staff in place of experienced unit staff increases the incidence of medical errors.[5]
- During a flu outbreak in Genesee County, Michigan in 1982, unvaccinated nursing home residents were four times more likely to die than were vaccinated residents.[6]

Vaccination of health care personnel has been proven to reduce the transmission of influenza and many influenza-related complications that may cause death both for patients and health care personnel. Inactivated (i.e., killed virus) influenza vaccine and live, attenuated influenza (intranasal) vaccine are available for use in the United States. Become a Flu Fighter. Protect yourself, your colleagues, and your patients this and every flu season.

References

1. Centers for Disease Control & Prevention (CDC). Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity & Mortality Weekly Report (MMWR),* 2007; 56(No. RR-6).

2. Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Joint Commission Establishes Infection Control Standard to Address Influenza Vaccines for Staff: News Release. *Infection Control Standard,* June 13, 2006; IC.4.15. Accessed on August 13, 2007.

3. Centers for Disease Control & Prevention (CDC). Outbreak of Influenza A in a Nursing Home - New York, December 1991 - January 1992. *Morbidity and Mortality Weekly Report (MMWR),* 1992; Feb 4(18):129-31.

4. Sartor, C, Zandotti, C, Romain, F, Jacomo, V, Simon, S, Atlan-Gepner, C, Sambuc, R, Vialettes, B, & Drancourt, M. Disruption of Services in an Internal Medicine Unit Due to a Nosocomial Influenza Outbreak. *Infection Control & Hospital Epidemiology,* 2002; 23(10): 615-9.

5. Lundstrom, T, Pugliese, G, Bartley, J, Cox, J, & Guither, C. Organizational and Environmental Factors that Affect Worker Health and Safety and Patient Outcomes. *American Journal of Infection Control,* 2002; 30(2): 93-106.

6. Centers for Disease Control & Prevention (CDC). *Epidemiology and Prevention of Vaccine-Preventable Diseases* (10th edition), 2007.

This Flu Season, Influenza Will be Responsible for 36,000 U.S. Deaths

Get your flu vaccine this fall and every fall.

Make sure that your patients and your family members get their flu vaccine this fall and every fall.

The life you may save could be yours, one of your family members, or one of your patients.

"There are risks and costs to a program of action. But they are far less than the long-range risks and costs of comfortable inaction."

John F. Kennedy

"Multijurisdictional Outbreak…"

continued from page 2

This multijurisdictional investigation demonstrated a cohesive and appropriate response to a public health incident. During this outbreak, both the prompt notification of other counties by the LCDPH and the swift development of the questionnaire by OCHD launched this investigation within hours on April 20th. It is also clear that the participation of regional epidemiologists supported the process by facilitating communication and coordination between the four jurisdictions.

A number of challenges were also encountered. Over the course of this investigation it became apparent that local health departments differ in their response to suspected norovirus outbreaks, often due to lack of resources. Shared response protocols between the participating health jurisdictions would aid in preventing unintended confusion or differing response goals.

Human Subject Research Educational Training

Under MDCH's Federal Wide Assurance (FWA) for the protection of human research subjects we are expected to establish educational training and oversight mechanisms to ensure that research investigators, IRB members and staff, and other appropriate personnel maintain continuing knowledge of, and comply with, the following: relevant ethical principles; relevant federal regulations; written IRB procedures; OHRP guidance; other applicable guidance, state and local laws; and institutional policies for the protection of human subjects.

Furthermore, OHRP expects that a) IRB members and staff complete relevant educational training before reviewing human subjects research; and b) research investigators complete appropriate institutional educational training before conducting human subjects research.

MDCH IRB Training Requirement for Investigators

In order to meet the expectation for training of investigators, the MDCH IRB requires that:

1. The "Responsible MDCH Employee" provide documentation of IRB training. This training does not have to be CITI – we can accept documentation of any IRB training, but we recommend Collaborative Institutional Training Initiative (CITI) if they don't already have documented IRB training.

2. Documented training is good for three years from the date of documentation.

3. The "Responsible MDCH Employee" determines if anyone else involved in the research should have training. Anyone, regardless of whether or not they are MDCH employees, is eligible to take CITI training.

MDCH IRB Training Options

This training requirement can be met by completing the required modules on the CITI online training site (www.citiprogram.org). Training can also be done by attending an in-person training session that can be arranged for a group of individuals. Please contact Stacy Hassett (517/241-1928) to make such arrangements. We also accept documentation of training that is approved by another IRB.

There have been a number of MDCH employees who have attended comprehensive in-person MDCH training, or provided documentation of IRB training from another source. If you think you have already completed training in one of these ways, check with Stacy.

Renewal of MDCH IRB Required Training

Documented training from any of these options is good for three years from the date of successful completion of the training. After three years, renewal of training must be done using the CITI online training.

A Word About the CITI Training Option

MDCH subscribes to the CITI. The CITI Program is an online subscription service providing ethics education to all members of the research community. It is considered the "gold standard" online training for this purpose. Since 10-1-2000, over 600,000 people have met the Federal training mandate by completing a CITI course.

In addition to an MDCH-specific module, it features a Basic Course of 12 modules for biomedical investigators, 11 modules specifically prepared for Investigators conducting Social/Behavioral research and 5 General Interest modules. There are also modules for Refresher Courses, Good Clinical Practice (GCP), Health Information Privacy and Security (HIPS), Responsible Conduct of Research (RCR), Laboratory Animal Welfare, and an International Course.

The learners can print/download a Completion Report that details their accomplishments. A copy of the Completion Report is e-mailed to the institutional key trainer or IRB administrator.

The learner may also complete a voluntary satisfaction survey. The learner can return to the course site and download a copy of the completion report as needed. An administrator at each institution will have access to the CITI Report Utilities to view the progress of an individual learner or to download aggregate training data. The administrator also has access to the comments submitted by their learners about the course site.

Beginning August 1, 2007 proof of Institutional Review Board (IRB) Training will be required when submitting an IRB Application and the CITI training is recommended for this purpose. There is no limit to the number of people who may use the CITI course site under our subscription and it is available to non-MDCH personnel involved in projects with our department.

MDCH Employees and Affiliates may participate in IRB training through CITI at www.citiprogram.org or by going to our website at www.michigan.gov/orb.

For additional information, please contact Stacy Hassett at 517/241-1928.

2006-2007 Michigan Influenza Surveillance Season Summary

Susan Vagasky, DVM – Influenza Surveillance Epidemiologist
Michigan Department of Community Health

Overall, the 2006-2007 Michigan influenza season can be characterized as mild, with peak activity in late March. This season marked the second in a row with both low activity and an unusually late peak. Activity due to influenza A (H1N1) predominated during November through mid-February. Cases due to influenza A (H3N2) increased in late February and continued through April, while A (H1N1) cases correspondingly decreased during this time. Influenza B viruses co-circulated throughout the season, peaking in early March.

Nationally, influenza activity peaked in mid-February, four weeks prior to peak activity in Michigan. The 2006-2007 season was associated with less mortality and lower rates of pediatric hospitalizations than the previous three seasons. Nationwide virologic data mirrored that seen in Michigan. Deaths due to pneumonia and influenza, as reported by the 122 Cities Mortality Reporting System, did not exceed the epidemic threshold this season. 68 pediatric deaths associated with influenza were reported from 26 states.

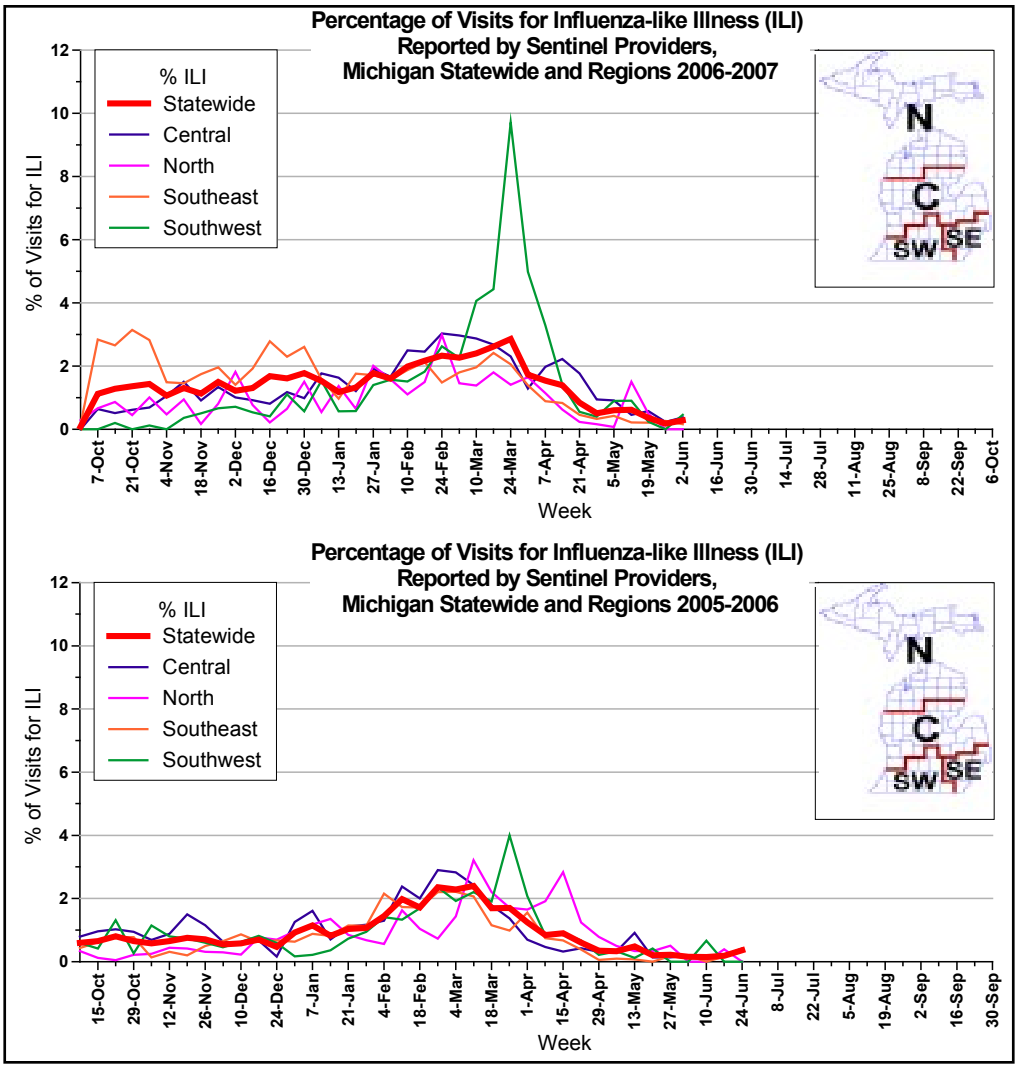
CDC issued a May 2007 Health Alert regarding an increase in influenza-associated pediatric deaths and co-infections with Staphylococcus aureus during the 2006-2007 season. Of the 68 reported influenza-associated pediatric deaths during last season, 21 had co-infections with influenza and either methicillin-resistant or sensitive S. aureus.

Sentinel Provider Data

Weekly data provided by Michigan Influenza Sentinel Providers indicated that statewide influenza-like illness (ILI) activity occurred at a low level, less than two percent of all office visits, from October through mid-February. Subsequently, the proportion of visits due to ILI increased each week, peaking at 2.9% in the week ending March 24. Activity returned to less than 1% by the week ending April 21. The Southwest surveillance region reported higher activity in mid-March, peaking at 9.7%; these data were impacted by the activity experienced at one reporting site.

Aggregate Influenza-like Illness

For aggregate influenza-like illness reported by local health departments, the top three weeks of the season were the weeks ending March 31 (20,996 reports), February 24 (18,742 reports) and March 17 (18,240 reports). The data from the weeks ending March 31 and March 17 corresponds to peak activity for ILI sentinel reporting and individual reports. Overall, aggregate counts from 2006-2007 appear similar to the previous season in timing, length and severity.



Individual Influenza Reports

Peak activity for individual influenza reports in the Michigan Disease Surveillance System was seen between the weeks ending March 17 and April 7. From October 1, 2006 – May 31, 2007, 1,126 individual cases were reported. The median age of individually reported cases was 12 years, with a mean of 21 years. Over the course of the season, the largest percentage of individual cases (25.4%) occurred in very young children (0-4 years).

continued on page 6

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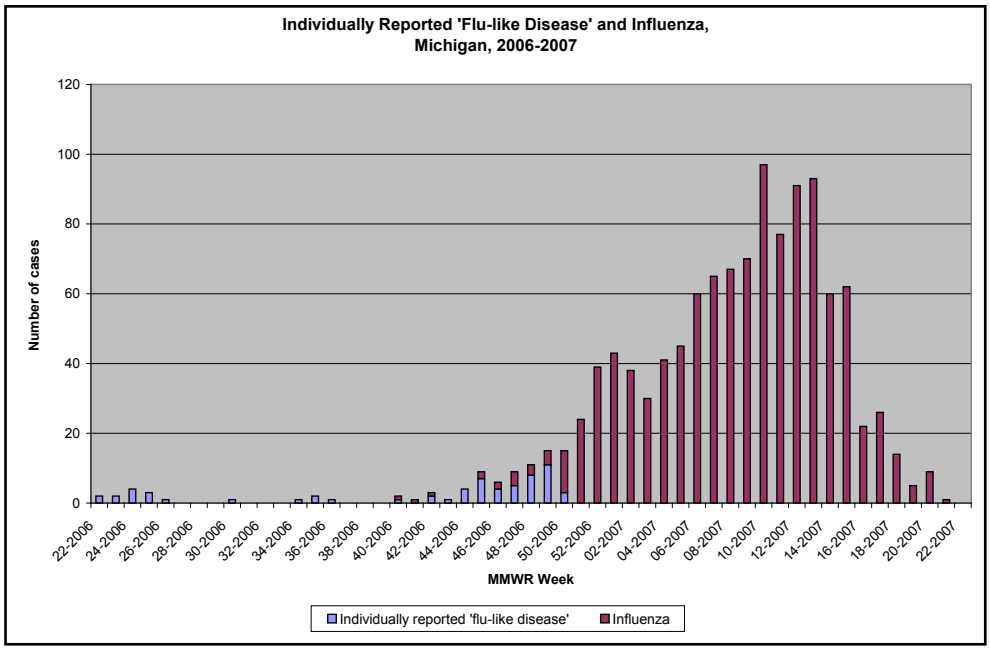


Sentinel Laboratories

Positive test results were first seen during late November to early December in the majority of sentinel labs. While variation in peak activity was noted, the majority of labs saw their highest number of positive influenza test results in late February to March.

2007-2008 Influenza Vaccine

The 2007-2008 influenza vaccine will contain the A/Solomon Islands strain as its H1 component, A/Wisconsin strain as its H3 component and the B/Ohio strain for its B component (used for B/Malaysia/2506/2004-like virus). This represents a change for the A (H1N1) lineage, with A/Solomon Islands being a recent variant of the previous vaccine strain A/New Caledonia. The A (H3N2) and B components remain the same.

The 2006-2007 Michigan Influenza Surveillance Season Summary can be found in its entirety online at http://www.michigan.gov/documents/mdch/MDCH2006-2007Summary_205808_7.pdf.

Syndromic Surveillance

Emergency department visits due to constitutional complaints increased above baseline levels in November, remaining elevated until late April. Constitutional visits peaked twice – in late December at 11.5% of all visits and in late March at just over 11.5%. Respiratory complaints started increasing in September, remaining elevated at 13-15% throughout the season and peaking at 19% in early January.

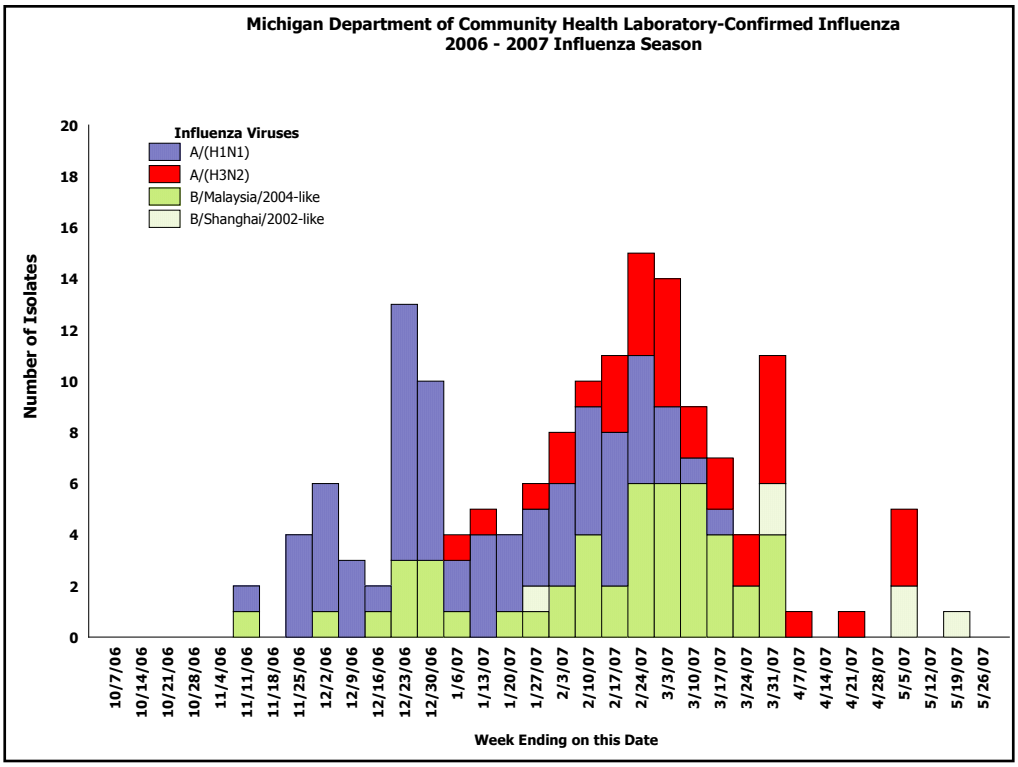
Over-the-counter product sales were more variable but still consistent with other indicators, suggesting that peak flu-like illness activity occurred in March 2007 and was similar to the previous season. One variation was the adult and pediatric cold relief liquids, which were one to two percent below total sales for the previous year.

Pediatric Mortalities and Congregate Setting Outbreaks

No confirmed pediatric influenza-related mortalities were identified in Michigan in the 2006-2007 season. One congregate setting outbreak due to influenza A was reported, which occurred in late February at an extended care facility in the Central region.

MDCH Laboratory Isolates

From October 1, 2006 to May 31, 2007, 157 cases of influenza were confirmed at the MDCH laboratory. Of these, 69 (44%) were due to influenza A (H1N1), 34 (22%) were influenza A (H3N2), and 54 (34%) were influenza B. During the 2005-2006 season, 96% of cases were attributed to influenza A (H3N2) and 4% to influenza B. These results suggest that a variety of influenza viruses were circulating in Michigan during the 2006-2007 season, with the majority of submitted isolates matching the vaccine strains.



Avian Influenza Rapid Response Workshops

The Michigan Department of Community Health (MDCH) received a grant from the Council of State and Territorial Epidemiologists (CSTE) to conduct a series of state agency and local agency training workshops to enhance the state's Avian Influenza Rapid Response planning. A state-level tabletop exercise was held on Tuesday, July 31 in Lansing, and was followed by four regional workshops held Sept. 12 in Gaylord, Sept. 19 in Escanaba, Sept. 26 in Grand Rapids and October 3 in Livonia.

The objectives of these workshops were to:

1. Review state and local agency response plans for avian/novel influenza.
2. Instill the need for effective communications among all partners.
3. Highlight the public health concerns surrounding avian influenza.
4. Emphasize the importance of personal protective equipment (PPE) for first responders.

The series of workshops explored the response to an outbreak of highly pathogenic avian influenza (HPAI) in a small poultry flock that resulted in human infections. These workshops focused on local preparedness and provided participants with an understanding of state and federal-level response planning for this type of event. Participants included state and local public health officials, federal and state agriculture and natural resources staff, federal, state and local law enforcement and emergency management personnel, state and local governmental officials, state and local poultry industry representatives, academic and extension personnel, and 4-H/hobby/specialty poultry owners.

The overarching goal of these workshops was to strengthen working relationships with other federal, state and local agencies that would be involved in responding to the detection of highly pathogenic avian influenza in Michigan. Participants reported that they enjoyed working in diverse groups and benefited from learning how other agencies could be impacted by and how they would respond to this type of scenario. Persons interested in seeing the materials presented at this workshop can e-mail Kim Signs at signsk@michigan.gov.

Stanbury Elected to CSTE Executive Committee

In June 2007, Martha Stanbury, Section Manager in the Division of Environmental Health, was elected to the Executive Committee of the Council of State and Territorial Epidemiologists (CSTE) where she serves a two-year term. She chairs the Environmental, Occupational, Injury Committee of the organization. CSTE has approximately 1,000 active and associate members in public health throughout the country. Many of its programs are funded through a cooperative agreement with the Centers for Disease Control and Prevention. The mission of CSTE is to promote the effective use of epidemiologic data to guide public health practice and improve health. CSTE accomplishes this by supporting the use of effective public health surveillance and good epidemiologic practice through training, capacity development, and peer consultation, developing standards for practice, and advocating for resources and scientifically-based policy. For more information about CSTE go to www.CSTE.org.

Stanbury is responsible for federally funded programs in chemicals and public health preparedness, occupational and environmental health surveillance, and the Michigan Hazardous Substances and Emergency Events Surveillance (HSEES) system. Since coming to the Department in 2001 she has developed the Department's chemical emergencies public health preparedness and response program, revived the Department's occupational health surveillance program, promoted environmental and occupational health issues with local health departments and other state agencies, developed new systems for environmental and occupational disease surveillance, coordinated outbreak investigations of acute illnesses associated with chemical poisoning, collaborated in studies of occupational disease, and initiated a variety of environmental public health intervention projects.

Martha received her Master of Science in Public Health from the University of Missouri Columbia in Community Health Education. She began her public health career at the Environmental Sciences Laboratory, Mt. Sinai School of Medicine. She then spent 17 years at the New Jersey Department of Health and Senior Services where she was Manager for the Occupational Health Surveillance Program and then Public Health Advisor to the State Epidemiologist/ Assistant Commissioner, Division of Epidemiology, Environmental and Occupational Health where she worked on a variety of cross-cutting public health issues including bioterrorism, pandemic influenza, cancer control and others.

She is co-author of 25 peer reviewed published papers and over 30 other reports, including MMWR and health department publications and a book chapter. She has been a member of CSTE since 2001 and has been active in the CSTE/States Occupational Health Surveillance Workgroup.

Division of Communicable Disease Reorganization

Recently, there have been some changes of staff and supervision within the Division of Communicable Disease. We have new names for each section.

Prior name: Infectious Disease Epidemiology Section
Section Manager: Dr. Mary Grace Stobierski
New name: Zoonoses and Special Projects Section
Staffing change: Moved TB unit, and Enterics and Influenza unit, added special projects
Focus: Zoonotic diseases such as West Nile, rabies, Lyme disease, oversight of the 24/7 on call system, oversight of student training programs, outreach with stakeholders.

Prior name: Surveillance Systems Section
Section Manager: Jim Collins
New name: Surveillance and Infectious Disease Epidemiology Section
Staffing change: Added Enterics and Influenza unit
Focus: Regional Epidemiologist team, infectious disease surveillance (MDSS, syndromic systems), bioterrorism/emergency preparedness, foodborne outbreaks, influenza, meningitis, respiratory outbreaks, antimicrobial resistant organisms, infection control, GIS, border health.

Prior name: HIV, STD and Bloodborne Infections Surveillance Section
Section Manager: Garry Goza
New name: HIV/STD/VH/TB Epidemiology Section
Staffing change: Added TB unit
Focus: HIV and STD surveillance (not case management), adult viral hepatitis (B & C), tuberculosis surveillance and case management support

Brendan Boyle Retires

Brendan Boyle retired from the Michigan Department of Community Health, Division of Environmental Health at the end of October.

Brendan has worked for the State of Michigan since 1979, and for MDCH (then the Department of Public Health) since 1988. He has partnered with multiple agencies, including the Michigan Department of Environmental Quality, US EPA, the Agency for Toxic Substances and Disease Registry, and other local and state health departments, in protecting public health and welfare. He has been an integral part of the Toxicology and Response Section and truly will be missed. Fortunately, he plans to return to the office on a part-time basis.

He wrote the below piece on his "Life and Times at MDCH"

My MDCH phase started in 1988, the agency, then the Department of Public Health, had been in receipt of the ATSDR Cooperative agreement for a few months and I was hired to do field work assessing sites of environmental contamination. Our center changed names and addresses frequently enough in the early years for me to suspect the business card industry of having a strong lobby at the Capitol.

I have gotten to work with many county environmental health types since the beginning. I particularly enjoyed going to ether-atmosphered public meetings wherein, striving to communicate, we often did what I consider some of our finest work. While other state health agencies would complain bitterly about their relationship with their environmental agency counterparts, I always felt we led a charmed life with the cooperation and support MDNR/MDEQ gave us.

As I prepare to leave the agency, I think talent-wise, our corner of MDCH is experiencing a golden era. The budget crisis and the Michigan economy are big threats, but the strength and depth of the professionals here at MDCH gives me cause for optimism. I hope that a Michigan public health agency is one day separated from MDCH, reunited with the parts that were pared-off it and pasted elsewhere in the past, and receives the credit and visibility it deserves.

Unmet Need At - a - Glance
Ryan White Program - Michigan

INTRODUCTION

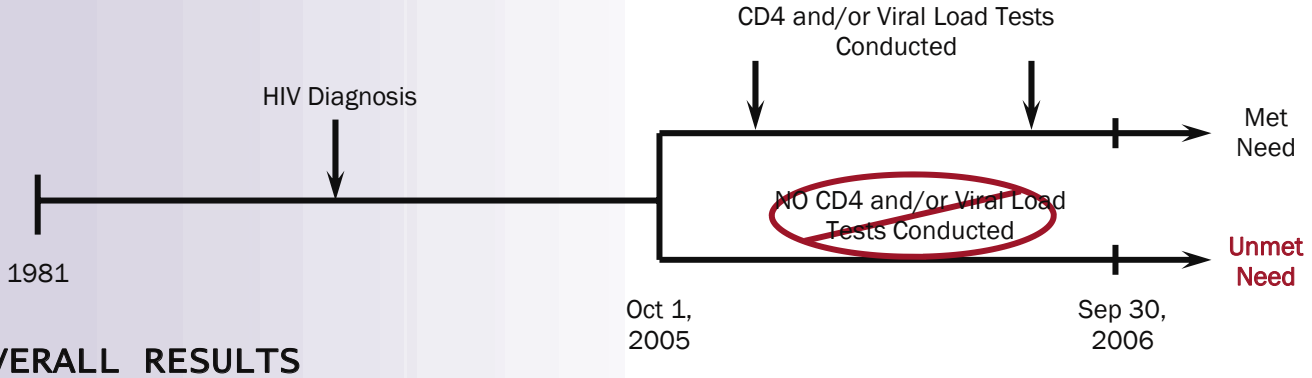
The Ryan White Program is a Federal program that provides funding for the care of persons infected with HIV. In FY 2006, the Ryan White Program allocated over $2 million to states and metropolitan areas. However, while Ryan White funding provides resources for care and services that many infected persons would otherwise not have access to, a large proportion of infected persons still do not receive care on a routine basis. As such, one focus of the Ryan White program is to assess and address unmet need for primary care services among HIV infected persons. The enclosed fact sheet describes those with unmet need for HIV primary care services in Michigan.

BACKGROUND

- Unmet need is defined by the Health Resources and Services Administration (HRSA), the agency that manages Ryan White funding
  - HRSA requires that grantees **estimate**, **assess**, and **address** unmet need
  - Epi data used for the *estimation* and demographic *assessment* portions
- Unmet need is an assessment of need for primary medical services, NOT an assessment of service gaps

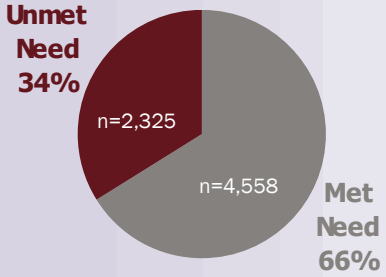
METHODOLOGY

- Unmet need = Neither HIV viral load nor CD4 count/percent performed within a 1 year period
- FY2007 analysis included:
  - All HIV+ persons living in Michigan reported to HIV surveillance and diagnosed before Oct 1, 2005
  - 1 Year period used was Oct 1, 05 through Sep 30, 06

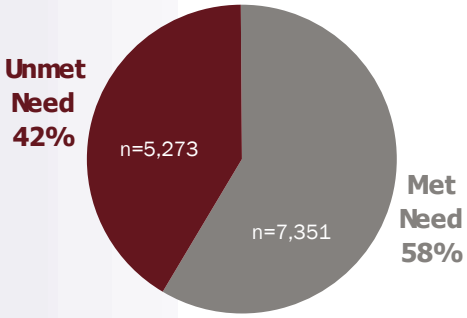


OVERALL RESULTS

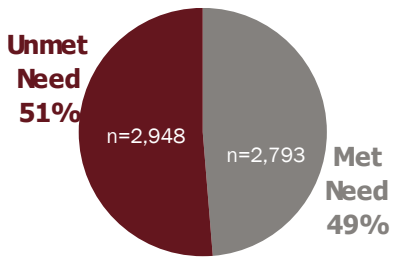
- 12,624 HIV+ persons in Michigan were included in analysis
  - 6,883 (55%) with AIDS
  - 5,741 (45%) with HIV, non-AIDS
- 5,273 (**42%**) HIV+ persons did not receive a VL or CD4 between Oct 1, 05 and Sep 30, 06
  - 2,325 (**34%**) persons with AIDS had unmet need
  - 2,948 (**51%**) persons with HIV, non-AIDS had unmet need



Unmet Need Among AIDS Cases n=6,883



Overall Unmet Need in MI n=12,624

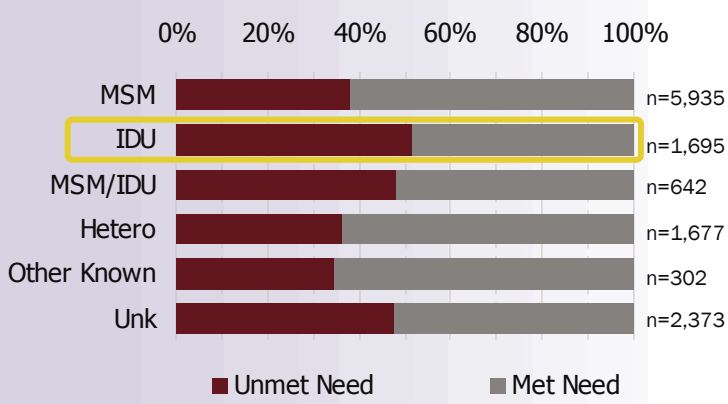


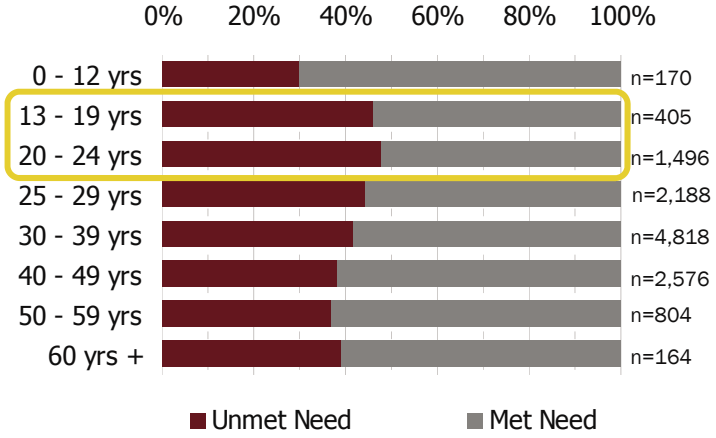
Unmet Need Among HIV, non-AIDS Cases n=5,741

SUBPOPULATION ASSESSMENT

- No disproportionate unmet need according to race or sex
- IDUs have more unmet need (**51%**); MSM have less (38%)
- Persons diagnosed with HIV at younger ages have more unmet need - **47%** of persons diagnosed with HIV at 13-24 years have unmet need

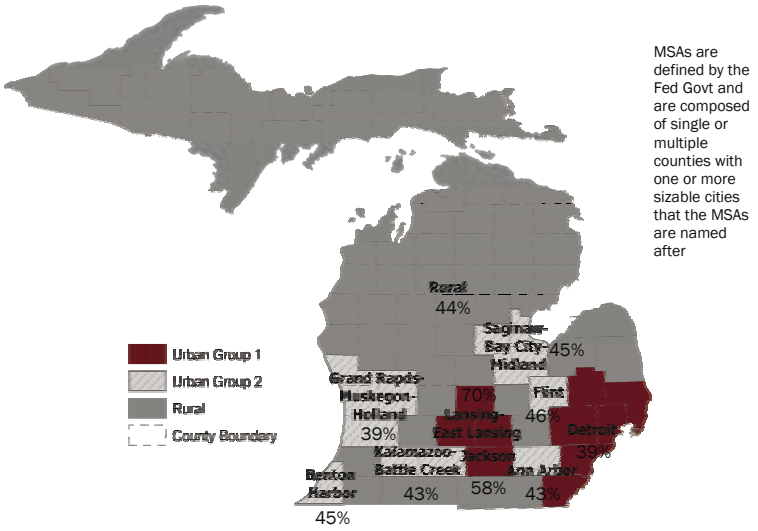
Percent Unmet Need by Risk and Age at HIV Diagnosis





- Out-state has more unmet need (**47%**) than the Detroit EMA (39%)
  - Lansing - East Lansing MSA (Clinton, Eaton, and Ingham counties) has the highest out-state unmet need (**70%**)
  - Jackson MSA (Jackson Co.) has the second highest (**58%**)
  - **BUT**, Lansing MSA and Jackson MSA only contain *10%* of unmet cases in Michigan combined! (most are in the Detroit EMA)

Percent Unmet Need Among Modified MSA/Rural Areas in Michigan



NATIONAL COMPARISONS

- Different areas use vastly different methods to estimate unmet need, so our estimate is not directly comparable to individual areas and national estimates are rough
- However, overall, Michigan's estimates fall in the middle of median, aggregate, and range of national estimates

Summary of All Unmet Need Estimates from FY2006 Ryan White Title I and Title II Applications

Unmet Need Estimates	Title I	Title II
Range of unmet need estimates		
HIV and AIDS	16% - 71%	9% - 87%
HIV/non-AIDS	12% - 80%	14% - 85%
AIDS	9% - 60%	0% - 75%
Median estimate of unmet need		
HIV and AIDS	36%	**43%**
HIV/non-AIDS	42%	**52%**
AIDS	29%	**38%**
Aggregate estimate of unmet need		
HIV and AIDS	37% (220,666)	**43%** (325,228)
HIV/non-AIDS	47% (135,475)	**52%** (185,706)
AIDS	27% (79,934)	**33%** (128,354)

Source: Mosaica Unmet Need TA Center

New Employees

Sonya Adams recently joined the Lead and Healthy Homes section in the Division of Environmental Health filling the Certification Technician position. Prior to this position, Adams worked as an Administrative Support Technician for the Michigan Concrete Association working in certification and registration.

Pamela Roy has recently begun work as a wildlife disease biologist in the Zoonotics and Special Projects Section, specifically dealing with zoonotic and vector-borne issues such as Lyme disease and West Nile Virus. Pamela is finishing her Masters Degree at Michigan State University this year. She is a part of the Fisheries and Wildlife Department and the Specialization in Fish and Wildlife Disease and Conservation Medicine. Her thesis research focuses on Lyme disease ecology in Michigan.

Beth E. Anderson is the new Diabetes/ Cardiovascular Disease Epidemiologist in the Chronic Disease Epidemiology section. Beth has an MPH in Epidemiology from the University of Michigan. She previously worked as a project coordinator/epidemiologist in the MDCH Division of Environmental Health. She has been project manager for the PBB Long-Term Study, including a project to examine the association between exposure to PBB and/or PCB and the risk of endometriosis. She has also served as epidemiologist with the Office of Drug Control Policy analyzing drug and alcohol data at the state level and sharing this data with communities to aid in making data-driven decisions regarding alcohol-related traffic deaths.

Nazneen Sayeed is a new administrative assistant for the Division of Communicable Disease. She received a Bachelor of Science in Biochemistry and Molecular Biology and a Bachelor of Arts in Legal Studies from the University of Massachusetts, Amherst. She later received a Master of Art in Dispute Resolution from the University of Massachusetts in Boston. She is currently in her third year at Cooley Law School. Nazneen is pursuing a legal career in Administrative Law and Public Policy. Prior to moving here to attend law school, Nazneen worked as a paralegal/legal secretary for two years in Boston, MA.

Chris Fussman is the new Behavioral Risk Factor Epidemiologist in the Division of Genomics, Perinatal Health, and Chronic Disease Epidemiology. He will be working with Ann Rafferty on BRFS implementation, analysis, and reporting. An MSU Epidemiology alumni, Chris has been working with the Cancer Section at Michigan Public Health Institute for the past three years.

New Grants

The Chronic Disease Epidemiology Section in the Division of Genomics, Perinatal Health and Chronic Disease Epidemiology partnered with the Division of Chronic Disease and Injury Control in a successful application to address health promotion and prevention among people with disabilities. MDCH has been awarded $250,000 annually by the Centers for Disease Control and Prevention to support planning, surveillance and intervention activities. Bureau of Epidemiology employees Sarah Lyon-Callo and Peter DeGuire will be working on this project.

The Chronic Disease Epidemiology Section received $183,750 annually to develop capacity and conduct surveillance for disabilities and health in Michigan by the Centers for Disease Control and Prevention and the National Center of Birth Defects and Developmental Disabilities.

The Division of Chronic Disease and Injury Control, along with the Chronic Disease Epidemiology Section were funded for $590,415 annually to create a Michigan Stroke Registry and Quality Improvement Program as part of the Paul Coverdell National Acute Stroke Registry by the Centers for Disease Control and Prevention. Sarah Lyon-Callo will be working on this project.

The Division of Environmental Epidemiology was awarded $500,000 over a three-year period for a study called, "The Detroit Asthma Morbidity, Air Quality and Traffic Study." The main objective of the project is to develop and evaluate a direct health indicator of pediatric asthma morbidity resulting from exposure to ambient air pollutants using an epidemiological approach that merges existing datasets and incorporates population susceptibility, exposure patterns, and other local conditions. More specifically, the project will examine the relationships between daily changes in air pollutant concentrations, including the individual effects of residential location and exposures due to traffic and industry-related pollutants. Bob Wahl will be the lead Bureau of Epidemiology employee working on this study.

Presentations

At the annual conference for the Council of State and Territorial Epidemiologists June 25th-27th in Atlantic City, New Jersey, the following Bureau Employees presented:

Eve Mokotoff presented "HIV Transmission, Socio-Cultural Influences and Implications for Prevention in Detroit" Renee McCoy was a co-author.

Katie Macomber presented "The Implications of Syphilis Electronic Laboratory Reporting on a Morbidity-Based Disease Surveillance System" Elizabeth Lewis was a co-author.

Sarah Lyon-Callo presented "The Forgotten Epidemic: Chronic Obstructive Pulmonary Disease in Michigan."

Sarah Lyon-Callo presented "Use of Existing Data Sources for Potential Surveillance of Epilepsy in Michigan." Ann Rafferty, Michael Paustain, Violanda Grigorescu, and A. Gorelick were co-authors.

Tom Largo presented "Referring Cases of Work-related Amputations to Michigan OSHA: Is it Worth the Effort?"

Tom Largo presented "Update on CSTE Indicators: Occupational Indicators"

Katie Sheline presented ""Evaluation of the Michigan Emergency Department Syndromic Surveillance System"

Betsy Wasilevich presented "Using Surveillance to Evaluate Local Activities – The Asthma Initiative of Michigan Experience"

Betsy Wasilevich presented "Reducing Asthma Mortality in Michigan: Findings from the Asthma Mortality Review." E. Hanna, Sarah Lyon-Callo and Ken Rosenman were co-authors.

Betsy Wasilevich presented "Monitoring Pediatric Asthma Management in the Michigan Medicaid Population – A Surveillance Approach." Sarah Lyon-Callo and KJ Dombrowski were co-authors.

Kyle Enger presented "Investigation of childhood immunization coverage in Michigan using survival analysis methods."

"Factors Associated with Utilization of Arthritis Self-Help Programs in Michigan" will be presented at the American College of Rheumatology and the Association of Rheumatology Health Professionals Scientific Meeting. Authors include Peter DeGuire, Emily Somers, Steven Springer, and Judi Lyles.

"Barriers to Arthritis Care in Michigan" will be presented at the American College of Rheumatology and the Association of Rheumatology Health Professionals Scientific Meeting. Authors include Peter DeGuire and Emily Somers.

The following Bureau staff presented at the Fall Immunization Conferences:

Terri Adams presented "Centralized Ordering and Distribution for VFC Providers"

Joel Blostein presented "Vaccine-Preventable Diseases: The Michigan Experience"

Rachel Potter presented "Influenza Vaccination and Healthcare Personnel"

Barbara Wolicki and JoEllen Wolicki presented "Other Immunizations Healthcare Personnel Need"

Kathy Allen-Bridson presented "An Introduction to the Great Lakes Border Health Initiative" at the Public Health Preparedness Symposium in Sault Ste. Marie, Mi on August 22nd.

Teri Lee Dyke presented "Michigan Emerging Trends in Infection Control and Communicable Disease in Long Term Care" at the Michigan Chapter of Healthcare Association in Michigan Annual Convention in Mount Pleasant, MI on October 24, 2007.

Teri Lee Dyke presented 'Summary of Environmental Equipment Cleaning/ Disinfection Recommendations" at the Global Conference on Clostridium Difficile in Toronto, Canada on August 24, 2007.

New Publications

Meliker, J.R., **Wahl, R.L., Cameron, L.L.,** and J.O. Nriagu. Arsenic in drinking water and cerebrovascular disease, diabetes mellitus, and kidney disease in Michigan: a standardized mortality ratio analysis. Environmental Health. 2007 Feb 2;6:4.

Givens, M.L., Small, C.M., Terrell, M.L., **Cameron, L.L.,** Michels Blanck, H., Tolbert P.E., Rubin, C., Henderson, A.K. and M. Marcus. Maternal exposure to polybrominated and polychlorinated biphenyls: infant birth weight and gestational age. Chemosphere. 2007 Jul 5;(epublished).

Mokotoff E.D., Glynn M.K.. Surveillance for HIV/AIDS in the United States. Chapter 16 in Infectious Disease Surveillance. Editors: Mikanatha N, Lynfield R, Van Beneden CA, deValk H. Blackwell Publishers 2007.

Rafferty, A, Garcia, E., Lyon-Callo, S. Grigorescu, V., Inaugural Issue. "Michigan BRFSS Surveillance Brief." Vol 1, No 1., Michigan Department of Community Health, Chronic Disease Epidemiology Section, August 2007.

Hall, HI, and **ED Mokotoff.** "Setting Standards and an Evaluation Framework for Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome Surveillance." Journal of Public Health Management and Practice, 2007 13(5) 519-552.

Sullivan, PS, Denniston, M., McNaghten, A, Buskin, SF, Broyles, ST, and **ED Mokotoff.** "Use of a Population-Based Survey to Determine Incidence of AIDS-defining Opportunistic Infections Among HIV-Positive Persons Receiving Medical Care in the United States." AIDS Res Ther 2007 September 12;4 (1): 17.

Callery, S., **Dyke, T.L,** Friedman, C., Jeanes, A., Piaskowski, P., Sebazco, S., and D. Tucker. "Infection Prevention and Control in Emergencies and Disasters Toolkit 2ed." International Infection Control Council, 2007, Association for Professionals in Infection Control and Epidemiology.

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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SAVE THE DATE! NEW CONFERENCE LOCATION!

FRIDAY, APRIL 4, 2008

Mark your calendars for April 4, 2008, when the Epidemiology Section of the Michigan Public Health Association will present the Seventh Annual Michigan Epidemiology Conference at the MSU Union in East Lansing, MI. As it becomes available, more information will be distributed online (http://mipha.org/epi/index.htm) and by e-mail.

As in previous years, the conference will feature:

- Plenary sessions focusing on a variety of epidemiological subjects
- Poster presentations and breakout sessions covering many topics, such as:

Infectious disease	Occupational injury
Environmental epidemiology	Maternal & child health
Epidemiology careers	Chronic disease

- Free admission (there may be a fee for parking, however)
- CME and CEU credits

- Please consider submitting abstracts for a poster or oral presentation. If you need the submission form, check the website (http://mipha.org/epi/index.htm).
- If your organization is interested in exhibiting at the Michigan Epidemiology Conference, please contact Kyle Enger at engerk@michigan.gov.
- Information about past conferences is also on the website.