

Injection Drug Use and Hepatitis C Infection
By: Kathryn Macomber, M.P.H. and Garry Goza, M.S.

Nearly 3.9 million Americans have been infected with the hepatitis C virus (HCV). An estimated 2.7 million Americans have chronic infections, which is about 75-80% of those infected. Liver disease will occur in 70% of those chronically infected. The prevalence of HCV in Michigan is believed to be 1.8%, or 180,000. In the early days of the HCV epidemic, transmission occurred via blood transfusions and transplants. Accurate blood screening began in 1990 with the HCV antibody test.

In the United States, the incidence of HCV has declined over the years to an estimated 25,000 to 35,000 cases per year. The decline has also occurred among the injection drug use (IDU) community, most of which is believed to be a result of the safer injection practices related to HIV education and prevention programs. However, it remains important to emphasize that injection drug use continues to be the major risk factor in Michigan and in the United States for HCV acquisition. 60% of the new cases of HCV are still attributed to injection drug use or to the sharing of IDU equipment or paraphernalia.

After initiation of injection drug use, 50-80% of IDU's become infected with HCV within five years. In a study of the prevalence of HCV in western Michigan residents entering drug treatment, it was found that nearly 25% of clients were HCV positive. The prevalence increased to 61% if clients reported ever injecting drugs. The odds ratio of having HCV was 9.4 (95%CI=(6.5-13.7) for those that ever injected drugs.

In addition, the spread of HCV can be attributed to sharing "works" used in drug preparation, like cookers or cotton. A study in Seattle found that over 50% of their cases could be attributed to sharing drug preparation paraphernalia, and not necessarily needles.¹ The odds of having HCV, in the Western Michigan study, was 3.5 (95%CI=(2.0-6.0) for those who had ever shared works. With such a high prevalence of HCV in the IDU community, those sharing needles are more likely to encounter an infected person over time. This was also evident in the fact that the odds of having hepatitis C increases with age with the odds ratio rising from 2.6 at age 25-29 to 17.3 at 40-44 in these clients. These variables were more associated with HCV infection than sexual behavior, sex, or race.

In the same study of HCV in those entering drug treatment, the odds of having HCV was 1.3 for those with a previous history of incarceration (95%CI=.9-1.9). The national statistics of HCV prevalence is an underestimate because it does not include infections in prisoners. It is estimated that 39% of those with HCV were released from a correctional facility during the previous year. This is significantly related to injection drug use, as 21% of state prisoners and 59% of federal prisoners were incarcerated for drug offenses in 2000, and injection drug use was reported by 18% of jail inmates.²

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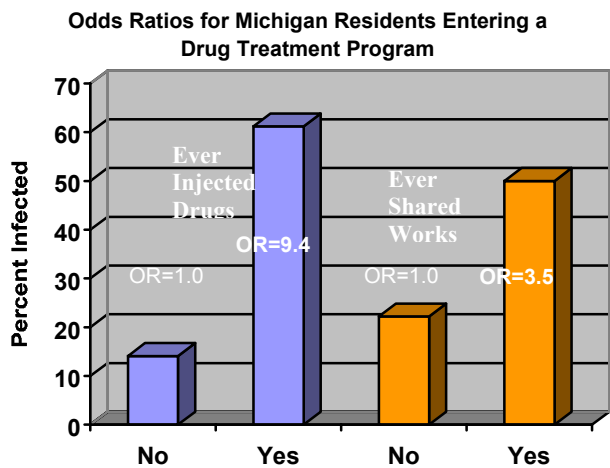
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The Michigan Department of Community Health requires reporting of Hepatitis C virus infections in Michigan residents. When available, MDCH would request any information on risk factors for infection. By characterizing the prevalence of HCV in the injection drug using community, we will use this information to tailor education and prevention programs to various regions of the state. Because HCV in injection drug users is also linked to the high prevalence in corrections, MDCH hopes to collaborate with The Michigan Department of Corrections to design a prevalence study to assess the burden of HCV in the state correctional system. On the federal level, recent legislation would direct the Health and Human Services Secretary to develop and implement a plan for the prevention and control of hepatitis C. The program will focus on increasing awareness, screening programs, counseling, immunization against co-infection, medical referral, and research to develop a hepatitis C vaccine. These recent initiatives, at the state and federal level, will aid in assessing the local burden of Hepatitis C in injection drug users and the community in order to develop appropriate interventions for this epidemic.

If you have any questions about Hepatitis C surveillance or epidemiology, please call (517) 335-8165.

¹ Hagan, H., Thiede, H., Weiss, N., et al. Sharing of Drug Preparation Equipment as a Risk Factor for Hepatitis C. 2001 American Journal of Public Health. 91(1); 42-46.

² Centers for Disease Control and Prevention. Prevention and Control of Infections with Hepatitis Virus in Correctional Settings. 2003. Recommendations and Reports (52, RR-1); 1-34.



New Preventative Medicine Residents arrive at MDCH

Eden Wells, M.D. began the Preventative Medicine Residency (PMR) through University of Michigan School of Public Health last year and will be spending six months at the Bureau of Epidemiology. She comes to Michigan after a 10-year career in the Indian Health Service where she was the Chief Medical Officer and Wolf Point Clinic Clinical Director at the Fort Peck Reservation. Wells is working on several projects during her PMR training including looking at pediatric reptile-associated Salmonella cases in Michigan and evaluating the Salmonella surveillance system with Communicable Disease staff. Wells also works with Dr. Mark Wilson at the University of Michigan School of Public Health developing an “Improved Disease Surveillance Decision Support System”- a computer modeling system of infectious disease transmission and activity for the early detection and management of bioterrorist events or unusual disease outbreaks or epidemics. Wells graduated from the University of California at San Diego and then earned her M.D. from The Ohio State University College of Medicine in 1989. She completed an Internal Medicine Residency at Vanderbilt University and became Board Certified in Internal Medicine in 1993.

Talat Danish, M.D. F.A.A.P., began the Preventive Medicine Residency (PMR) through University of Michigan School of Public Health last year and will be spending six months at the Bureau of Epidemiology. Danish completed her M.D. from Jawaharlal Nehru Medical College in India and came to the United States in 1995. After completing a pediatric residency at Henry Ford Hospital and working as a pediatrician for three years, she joined the PMR. She is board certified in Pediatrics. Danish will be looking at pediatric brain cancer trends over the past ten years while at the Bureau and will be evaluating the Michigan Cancer Surveillance System.

New Grants

The Bloodborne Infections and STD Epidemiology section in the Division of Communicable Disease and Immunization recently received \$33,457 in supplemental funding from the MDCH HIV/AIDS Prevention and Intervention Section of the Division of HIV/AIDS and STDs for the development of a HIV Perinatal Prevention Database Collaboration Project.

MDCH and the MichCon Mercury Regulator Investigation

By: Brendan Boyle, M.P.A.

Beads from a mercury-bearing regulator on the natural gas line of a Lincoln Park home hit the floor one August day in 2000. The elemental mercury spill was reported to the National Response Center by the utility, the Michigan Consolidated Gas Company, also known as MichCon. What followed was a sequence of events that had MDCH staff witnessing many sunrises and sunsets in the metropolitan Detroit area.

Mercury was used in residential gas line regulators in homes built through the 1950s in areas served by 10-pound pressure lines. The heavy metal acted like a soft plug, something that could be pushed through a bypass tube to the outdoors in the event of a surge in gas pressure. The problems came in the servicing or removing of meters and regulators because they were often in hard to reach basement locations and the deceptive center of gravity of the assemblage increased the chance of spills.

In August 2000, the Illinois utility NICOR was already in the process of an extensive spill investigation that would end up screening over 250,000 homes and costing more than \$100,000,000. After the Lincoln Park spill, Michigan based U.S. Environmental Protection Agency (EPA) staff from the Emergency Response Branch office on Grosse Isle convened a meeting of utilities doing business in Michigan and set about determining the status of Michigan spills.

The largest natural gas customer base belonged to MichCon and Consumers Energy, and both utilities were encouraged to draw up plans to perform a first phase investigation of all historic mercury spills. MDCH staff Dan Lince and Brendan Boyle were involved in the oversight of investigations that sought to test the efficacy of past mercury clean-ups.

MichCon had 39 homes in their Phase I that had documented spills in the past 10 years. The investigations were focused on finding any residual mercury beads and determining what the levels of mercury vapor were in the spill areas and throughout the house. The results were that all of the homes had vapor levels below the 1 microgram per cubic meter of air (ug/m³) criteria recommended by the Agency for Toxic Substances and Disease Registry (ATSDR) in the breathing zone everywhere in the home. Some homes still had beads of mercury present in crevices and under wood structures on basement floors even 8 years after the last service event. All of the residents who agreed to have urine tests showed levels in the

lower range of the 0 to 20 microgram per liter reference that represents 95% of the U.S. population. Some homes required additional cleanup, ventilation and clearance testing. MDCH field staff were involved in the oversight of investigation procedures, confirmation of readings using the agency's Lumex ® Mercury Vapor Analyzer, facilitating biological testing, interpreting results, and working with homeowners who did not want to grant access or participate in the investigation.

Early in 2001, MichCon agreed to conduct a Phase II investigation that would screen homes thought to have, or once have had a mercury regulator to determine the rate of undocumented accidental spills that may have occurred. Between March and August 2001, MichCon screened a sample of the total universe of potentially affected homes. A total of 3,895 homes were screened and 33 homes underwent characterization to find the extent of the mercury discovered. MichCon once again, under MDCH and EPA oversight, cleaned and clearance-tested homes and provided the opportunity for biologic testing for those in the homes where mercury was found. The urine testing once again did not identify anyone outside the range of expected mercury urine levels.

Since the investigation, MichCon has strengthened its field service training procedures for regulator service and the tracking and reporting of spills internally, and to MDCH. They have instituted an initiative to locate and remove mercury regulators that are currently in service.

MDCH acquired a great deal of experience in investigating and remediating mercury spills from the U.S. EPA, MichCon, and the environmental contractors and technicians who participated in this investigation. We have since conducted many field investigations and put on half a dozen workshops in conjunction with the Poison Control Center in Detroit, the Michigan Department of Environmental Quality, and the U.S. EPA in order to build capacity in local health departments, fire departments, environmental contracting firms, and other groups who do or should respond to mercury spills.

Among the many aspects we witnessed, we learned the following:

- Mercury can remain, giving off vapor, long after the spill if the temperature is low and the amount of traffic in the area is light.

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- While we were able to find historic spills we could not know the air levels and urine levels during the peak exposure times soon after the spills
- The Lumex® device is far superior in sensitivity and accuracy for measuring mercury vapor than the previous state of the art devices.
- Mercury spills have many variables that can make the situation relatively benign or very dangerous. They are almost always accompanied by a great deal of stress for everyone involved.

If you would like more information about the mercury regulator investigation please call Brendan Boyle at (517) 335-8138.



diseases. For instance, in Region Three the epidemiologist is enhancing the local capacity for food borne outbreaks by encouraging communicable disease nurses and sanitarians to establish regular team meetings and work sessions.

However, these individuals are funded through bioterrorism dollars and part of the role of the regional epidemiologist is to develop appropriate interventions in the event of a major health incident, like an outbreak or a bioterrorism event. The regional epidemiologist develops effective communications systems for sharing disease information across hospitals, laboratories, and health departments. For example, the regional epidemiologists have also facilitated incorporating surveillance guidelines into the bioterrorism plan and attend the region bioterrorism board meetings.

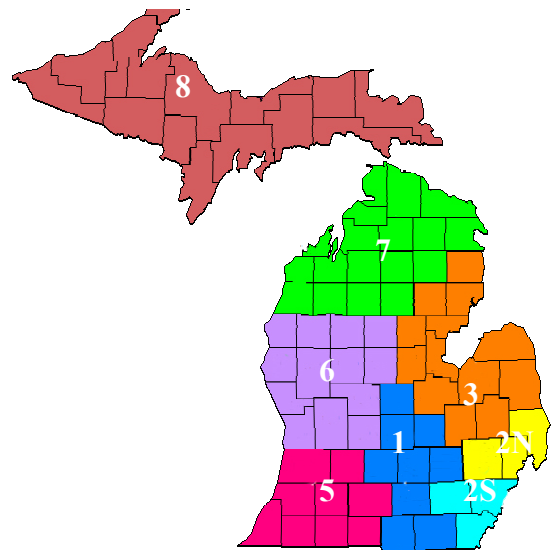
Information on the four newly hired regional epidemiologists will be included in the next edition of Epi Insight. Joyce Lai, M.P.H. can be reached at the Wayne County Health Department and is the 2S Regional epidemiologist. Tracy Proverbs-Singh, M.P.H. is housed at Oakland County Health Department and covers Region 2N. Tim Bolen, M.S. covers Region 3 and works out of the Midland County Health Department. If you have any questions about any of the other regions you can contact the Surveillance Section at 517-335-8165.

If you are unsure as to what bioterrorism region your facility is covered by, you can consult http://www.michigan.gov/documents/Emergency_Preparedness_Regions_53976_7.ppt

The Role of the Regional Epidemiologist

There have been several new faces around the Bureau of Epidemiology lately, many of which have been new Regional Epidemiologists. To date, three epidemiologists have filled these positions and four more epidemiologists have been hired and are in the orientation process. The Regional Epidemiologist is a position that was created from bioterrorism dollars. However, these epidemiologists have many roles beyond bioterrorism readiness.

The regional epidemiologists, in addition to their bioterrorism work, function to build epidemiological capacity for the local health departments, health care workers, and hospitals. They report not to the Office of Public Health Preparedness, but rather to the Surveillance Section within the Bureau of Epidemiology. These epidemiologists help to enhance surveillance for communicable diseases via training and consultations and assist in investigations of any unusual trends or patterns of infectious



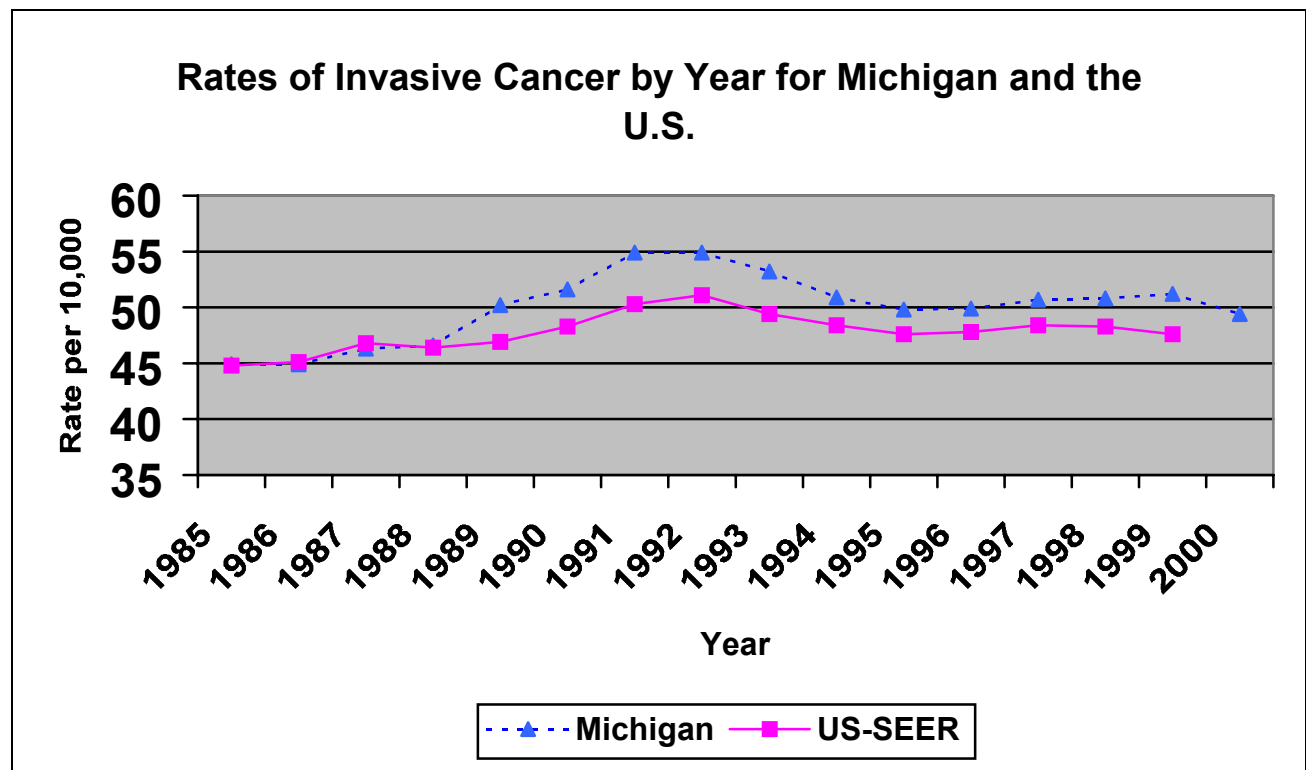
Overview of the Michigan Cancer Surveillance Program

By: Glenn Copeland, M.P.A.

The Michigan Cancer Surveillance Program operates a statewide cancer incidence registry for the state of Michigan. The registry began as a statewide registry in 1985 under the authority of Act 82 of 1984. This statute established cancer as a reportable disease in the state. Reporting is required of hospitals, laboratories, health clinics, dentists, and physicians. Additional information on cancer cases is obtained from nursing homes, hospices, and from 15 other state registries which exchange resident case information with the Michigan registry. The registry is routinely linked to the Michigan death registry and to the National Death Index within CDC to maintain the vital status of patients and to augment the registry with demographic and other information from the death certificate. The registry receives and processes 75,000 case reports concerning 55,000 cases and links to 25,000 deaths annually. The database currently contains 1.1 million reports concerning 890,000 cases of primary cancer.

The data set collected by the registry has evolved over the years to keep pace with the standards guidelines of the North American Association of Central Cancer Registries and with the requirements of the National Program of Cancer Registries within the Centers for Disease Control and Prevention. Throughout the years of operation, however, the registry has consistently collected the name and address of each patient, demographic information including age, sex and race and basic information on each cancer including site and histology, stage, date of diagnosis and method of confirmation. For cases linked to a death report, the date of death and cause of death are available.

The registry has undergone an audit of reporting completeness and quality on three separate occasions in an attempt to measure the degree of completeness and accuracy of the data being collected and to locate and highlight specific trouble spots for targeting. These reviews have consistently found the registry is complete and of good quality. The quality of the registry has also been evaluated and certified as meeting all standards for data quality and
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completeness by the North American Association of Central Cancer Registries (NAACCR) since this organization began offering this rating service in 1995. Registry data also meet the quality criteria of and is included within the Cancer Surveillance System database operated by the Centers for Disease Control and Prevention.

The enabling legislation and administrative rules clarify that the registry is intended for use in three specific areas. The registry is to serve as a source of statistical information on cancer incidence in Michigan. The registry is to be used to conduct surveillance into the incidence of cancer. In addition, the data are to be made available for use in scientific and medical research into the epidemiology and control of this disease. To these ends, registry staff prepare and release detailed statistical information in the form of a summary report and through the state Web site (http://www.michigan.gov/mdch/0,1607,7-132-2944_5323---,00.html). While public use files of the Michigan data are available for general use, special tabulations and graphics of the data are developed routinely to respond to requests that have special or very specific needs for cancer data. These requests originate within the Department of Community Health, the scientific community and the public at large. Each year a number of statistical evaluations of registry data are conducted by registry staff working in conjunction with environmental epidemiologists to examine the potential for excess cancers within selected geographic regions of the state to respond to concerns surrounding environmental contaminations, epidemiological interests or citizen concerns. Finally, registry staff collaborate with and otherwise provide data and services to further six to twelve IRB reviewed research studies annually being conducted by researchers both within and outside the Department of Community Health.

Staff Changes

Mark Schmidt, M.P.H. has accepted a new position as the new Bioterrorism Surveillance Epidemiologist in the Surveillance section. He previously worked as a Communicable Disease Epidemiologist in the Infectious Disease Epidemiology section. In this role he will be assisting in trainings, assessing novel surveillance systems and working with implementation of the new Michigan Disease Surveillance System (MDSS).

Employee Focus-Eve Mokotoff, M.P.H.

In the constantly changing Bureau of Epidemiology, Eve Mokotoff can honestly say some things have remained the same. Mokotoff has occupied only two offices (located next to each other) since her career began with MDCH in 1986 at the Herman Kiefer Health Complex in Detroit. Mokotoff, the Chief of HIV/AIDS Epidemiology, in the Bloodborne Infections and STD Epidemiology section, has been with her present position since 1992. Previously she worked as an AIDS epidemiologist for MDCH for 5 years, starting the active AIDS surveillance program for the state. She currently supervises 20 employees in the Detroit office, including epidemiologists, data abstractors, surveillance personnel, and study coordinators. In addition, Mokotoff lectures frequently at the University of Michigan School of Public Health.

Mokotoff's current focus is to change the language of the HIV reporting laws in Michigan to require laboratories to report tests indicative of HIV infection. She frequently acts as a troubleshooter for various questions that arise about HIV/AIDS reporting and also is involved in the nine behavioral, incidence, and clinical outcomes special studies that are ongoing in the section. Mokotoff is actively involved in organizing other state HIV/AIDS surveillance coordinators in order to provide group input on issues and policies affecting HIV/AIDS surveillance programs nationwide. As a member of the Council of State and Territorial Epidemiologists (CSTE) she recently authored a resolution to form an HIV workgroup within CSTE and to collaborate with the National Alliance of State and Territorial AIDS Directors (NASTAD) that was passed at the June 2003 Surveillance Coordinators' Meeting at the Centers for Disease Control and Prevention.

Mokotoff views her greatest accomplishment at MDCH as creating an HIV/AIDS program that is highly regarded on a national level and excels at providing quality data to the community. In a recent Michigan HIV News edition, editor Barb Wood said of Mokotoff, "People in Michigan are used to 'just calling Eve' to get their HIV/AIDS data."

Mokotoff lives in Ann Arbor with her husband, Michael, and their children, Anna and Gabriel. In her spare time she enjoys exercising, and attending her children's extracurricular activities. She is also an active member of the Temple Beth Emeth congregation and plans to start riding horses again as soon as she can.

Pertussis in Michigan-2002 Summary

By: Joel Blostein, M.P.H.

Sixty-two cases of pertussis were reported in 2002, a 58% decrease from the 149 cases reported in 2001. Males predominated slightly (57%). Cases ranged in age from 11 days to 87 years, with a median age of 6.5 years; the age distribution was bimodal, exhibiting peaks in those under 6 months of age and over 20 years (see Figure).

Cases were reported from 21 counties and from all 8 reporting regions of the state. No large outbreaks were reported; there were 8 clusters of cases consisting of between 2 and 5 cases linked epidemiologically.

Diagnosis was confirmed by laboratory testing in 25 cases (40%); 21 of these were confirmed by culture and 4 were confirmed by PCR assay. In addition, 2 other cases were considered confirmed on the basis of epidemiologic linkage to laboratory-confirmed cases.

Overall, information on immunization history was available for 49 (78%) cases. Of these, 25 (51%) had a history of receiving an age-appropriate number of pertussis vaccine doses. Pertussis vaccine is licensed for use in children aged 2 months to 7 years.

Of 14 cases reported in children between the ages of 3 months and 7 years, just 2 (14%) had a history of receiving an age-appropriate number of vaccination doses. These potentially represent cases that might have been prevented if all age-appropriate vaccine doses had been administered according to the recommended routine childhood immunization schedule.

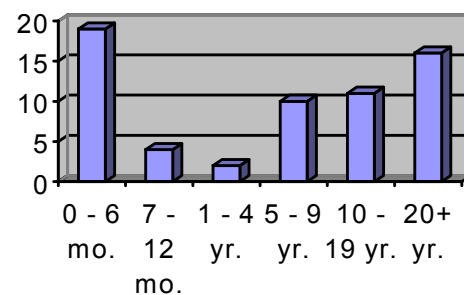
Data on duration of cough was available for 59 cases: the median cough duration was 33 days (range 7 to 106 days). Paroxysmal coughing was reported in 54 (87%) cases; post-tussive vomiting was reported in 44 (71%) cases, whoop was reported in 38 (61.3%) cases, and apnea was reported in 26 (41.9%) cases.

Overall, 20 (32%) cases were hospitalized; among infant cases under 6 months of age 84% were hospitalized. Pneumonia confirmed by chest x-ray was reported in 7 cases.

There was 1 reported pertussis death in 2002. The case was a 2½ week-old infant (too young to have received even the first dose of the primary vaccine series). The probable source of the case's infection was a 17 year-old uncle who resided in the home and

who had a recent history of a protracted cough illness. Very young infants are especially susceptible to severe pertussis disease. Even with antibiotic treatment and intensive specific and supportive therapy, the disease can prove overwhelming to such young babies. In these infants the clinical course often involves severe respiratory insufficiency due to primary pertussis pneumonia, possible secondary bacterial and/or viral pneumonia, and pulmonary hypertension.

Figure: Reported Pertussis Cases by Age Michigan 2002



Recent Presentations

Martha Stanbury, M.S.P.H., of the Division of Environmental and Occupational Epidemiology recently presented on "Integration of Chemical Terrorism in a State Environmental and Occupational Health Program." This was presented at the annual meeting of the Council of State and Territorial Epidemiologists on June 25, 2003 in Hartford, CT.

Garry Goza, M.S. and **Kathryn Macomber, M.P.H.** of the Bloodborne Infections and STD Epidemiology section presented, "Co-morbidity Update" at On the Front Lines: Referrals and Linkages Conferences on July 8-9, 2003 in Novi. The presentation looked at the statistical link between HIV, STDs, Hepatitis C, and substance abuse.

Matthew L. Boulton, M.D., M.P.H. presented before the National Academy of Sciences Institute of Medicine's "Who will Keep the Public Healthy in the 21st Century" Committee in May, and again before the IOM's Forum on Infectious Diseases on "Insuring an Infectious Disease Workforce for the 21st Century" in June in Washington, DC. Dr. Boulton was also a plenary speaker and session moderator on "The Role of Applied Epidemiology Training" at the annual conference of the Council of State and Territorial Epidemiologists in Hartford, CT in June.

Sex Behavior Among Syphilis Cases Compared with the Michigan Adult Population

By: Dara Ganoczy, M.P.H. and Susan Bohm, M.S.

The Bureau of Epidemiology at the Michigan Department of Community Health compared sexual behavior data collected in 2001 and 2002 from the Michigan Behavioral Risk Factor Survey (BRFS) and through the Sexually Transmitted Disease (STD) Program's syphilis surveillance. Of interest was how sexual practices in a population considered at high risk for STDs compared with the general Michigan population surveyed in the BRFS. The population-based BRFS collects data annually on behaviors and health practices linked to chronic diseases from non-institutionalized Michigan residents through telephone interviews. Occasionally the BRFS has included questions about communicable diseases to learn more about the behaviors associated with them. Several state-specific questions were added to the 2001 Michigan BRFS questionnaire to survey sexual risk behavior among adults ages 18–49. People who reported having one or more partners in the past year were asked about their use of condoms, and whether they had engaged in activities in the past year that are considered high risk for contracting HIV or STDs. As part of routine syphilis surveillance, sexual behavior questions are also asked of all persons reported with primary & secondary (P&S) syphilis. STD program staff interview persons with syphilis to obtain information about their sex partners as well as their behaviors that put them at risk for STDs. This information is used to notify partners of possible exposure and to develop interventions and target screenings. Because the vast majority of P&S syphilis in Michigan occurs in the Detroit area (85%) and these cases differ demographically from those in the rest of the state, responses were stratified by geographic region. It is also important to note that persons with syphilis differ from the population represented by the BRFS in that they are more likely to be residents of Detroit, African American, or men who have sex with men.

Almost 3% (2.7%) of Michigan adults were estimated from the BRFS to have had four or more sexual partners in the past year (see table). The percentage of respondents who reported four or more sexual partners was highest in the 18–29 age group (6.0%) compared with the 40–49 age group (0.8%). Men were more likely than women to report having four or more sexual partners in the past year (men, 4.6% vs. women, 0.9%). Not surprisingly, persons with syphilis were more likely to report having four or more sex partners in the past year, eight times more likely than BRFS respondents (22.6%). In Detroit, the proportion of cases that reported four or more partners was highest among those in the 40–49 and 18–29 age groups, but in the rest of the state, this proportion increased with age (see table).

As in the BRFS population, male syphilis cases in Detroit were more likely to report having four or more partners (25.4 vs. 19% of females). In the rest of the state, female syphilis cases were more likely to have more partners (30% vs. 19% of males).

From the BRFS data, it was estimated that 25.5% of sexually active Michigan adults used a condom the last time they had sexual intercourse; however, it should be noted that the majority of BRFS respondents reported only one partner in the past year (77.2±2.1%). Looking at those BRFS respondents who said they had two or more partners, 60.2% reported condom use. By contrast, persons with syphilis were less likely than BRFS respondents to report using a condom at the time of their last sexual intercourse (15.3%). Unlike BRFS respondents, having two or more partners in the past year did not substantially increase condom use (see table). Among persons with two or more partners in the past year, BRFS respondents were three times more likely to use condoms (60% vs. 18.7%).

To gauge the general population's participation in high risk activities, BRFS respondents were asked if any of the following situations applied to them: had they tested positive for HIV, or in the past 12 months had they used intravenous drugs, been treated for a sexually transmitted or venereal disease, or had anal sex without a condom. An estimated 4.8% of Michigan adults reported that they had engaged in such high-risk activities, with a higher percentage reported by the 18–29 age group than by those 40–49 years (7.4±2.5% vs. 2.2±1.2%). Persons with syphilis are also asked about high-risk behaviors, such as illicit drug use, exchanging money or drugs for sex, and having unknown or anonymous sex partners. Illicit drug use is more common among persons with syphilis compared to the general population. The 2000 National Household Survey on Drug Abuse reported that 6.9% of Michigan residents had used illicit drugs in the past month. In comparison, 43.4% of persons with syphilis in Detroit and 38.7% of cases in the rest of the state had used illicit drugs in the past year. Studies have found that drug and alcohol use are significantly associated with unprotected sex. In addition, one-quarter of syphilis cases reported exchanging money or drugs for sex, and a higher proportion reported having unknown partners: 27.3% in Detroit and 61% in the rest of the state.

Sexual behavior data collected through the BRFS allow the STD Program to see how behaviors of persons with STDs differ from those of the general population, most of whom have not had recent STDs. These findings show that not only are persons with
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syphilis more likely to engage in high-risk behaviors compared with the general population, they are also less likely to apply proven STD prevention strategies such as using condoms. Moreover, BRFs respondents who did report risky behaviors such as having multiple partners were much more likely to protect themselves from STDs by using condoms compared with persons with syphilis. This information is useful for creating educational messages and intervention programs for those most at risk of acquiring STDs.

Table: Sex behavior results from the BRFs and Syphilis Surveillance

Risk factor	% Respondents		
	BRFS 2001 (%±95% confidence intervals)	P&S Syphilis Detroit 2002 (N=424)	P&S Syphilis Rest of state 2002 (N=62)
≥4 sex partners past year			
Total	2.7±0.9 ^a	22.8	21.8
Ages 18–29	6.0±2.4	26.6	22.2
Ages 30–39	0.8±0.6	16.3	30.0
Ages 40–49	0.8±0.7	28.1	31.3
Males	4.6±1.7	25.4	19.0
Females	0.9±0.5	19.0	30.8
Blacks	4.2±3.0	24.5	23.3
Whites	2.4±0.9	13.3	21.7
Used a condom at last sex			
Total	25.5±2.3 ^b	16.3	8.0
Those with ≥2 partners	60.2±7.7	19.8	12.0
Engaged in high risk activities	4.8±1.1 ^c	—	—
Money/drugs for sex ^d	—	24.5	26.0
Unknown partners ^e	—	27.3	61.0

^aResponse to the BRFs question, "During the past 12 months, with how many people have you had sexual intercourse?" Among those who said they had sexual intercourse with at least one person in the previous year...

^bProportion of BRFs respondents aged 18–49 who reported that a condom was used the last time they had sexual intercourse.

^cProportion of BRFs respondents aged 18–49 who responded affirmatively to at least one of the following high risk activities in the past 12 months: used intravenous drugs, treated for a sexually transmitted or venereal disease, tested positive for HIV, engaged in anal sex without a condom.

^dProportion of P&S syphilis cases who reported exchanging money or drugs for sex in the past year.

^eProportion of P&S syphilis cases who reported having unknown or anonymous partners in the past year.

The Association of Schools of Public Health To Help Launch a New Epidemiology Fellowship Program

The Association of Schools of Public Health, together with partners from the Centers for Disease Control and Prevention (CDC) and the Council of State and Territorial Epidemiologists (CSTE), will launch a new fellowship program aimed at providing opportunities for newly graduating and highly qualified Masters and PhD level epidemiologists with a fellowship opportunity at state and selected local health departments. The two-year (one year renewable) fellowship is being established through CDC funding to help address the current and future capacity needs for state and local health departments.

The rollout of the program will occur over the next several months with the first class of Fellows starting their program in October. CSTE will use an online application for interested applicants tied to ASPH recruiting activities. The application is available at www.cste.org.

Recent Publications

Biroscak, BJ., Fiore, AE., **Fasano, N.**, **Fineis, P.**, Collins, MP., **Stoltman, G.** Impact of the Thimerosal Controversy on Hepatitis B Vaccine Coverage of Infants Born to Women of Unknown Hepatitis B Surface Antigen Status in Michigan *Pediatrics* 2003; 111: e645-e649 (**Sally Pray**, of the Perinatal Hepatitis B Program, aided in data abstraction)

Pivarnik JM., Reeves MJ., **Rafferty, AP.** Seasonal variation in adult leisure-time physical activity. *Med Sci Sports Exerc* 2003; 35:1004-1008.

Harry McGee M.P.H., served on the Technologic Challenges Subgroup as one of three representatives from state health departments to develop: Public Health Surveillance for Behavioral Risk Factors in a Changing Environment-Recommendations from the Behavioral Risk Factor Surveillance Team. *MMWR Recommendations and Reports* 2003; 52(RR09): 1-12.

Jill Granger, M.P.H. collaborated on: Surveillance for Acute Insecticide-Related Illness Associated with Mosquito-Control Efforts --- Nine States, 1999—2002. *MMWR* 2003; 52(27): 629-634. Granger worked with epidemiologists from eight other states on the document.

Michigan Establishes West Nile Virus Website

By: Kimberly Signs, D.V.M.

Mosquito season is upon us again, and so are concerns about transmission of West Nile virus (WNV) and other mosquito-borne illnesses. Arbovirus transmission typically can occur in Michigan from May-October, the months when mosquitoes are active. The Michigan Department of Community Health, together with its partners in the Departments of Agriculture, Natural Resources, and Environmental Quality, and Michigan State University's Diagnostic Center for Population and Animal Health, and Department of Microbiology and Molecular Genetics are continuing to monitor this important emerging infectious disease in Michigan. In 2002, Michigan was severely impacted by the WNV epidemic that affected a large portion of the central United States. Nationally, there were more than 4100 persons infected with WNV and more than 280 deaths attributed to WNV infection. Michigan suffered the second highest number of human cases in the nation with 644 laboratory-identified cases of WNV and 51 deaths attributed to WNV infection. New modes of transmission were also discovered in 2002, with human cases of WNV associated with organ transplant, blood transfusion, pregnancy, occupation (laboratory workers), and evidence of virus transmission through breast milk.

For 2003, a multi-agency WNV website has been developed to provide comprehensive information about WNV in Michigan. The address is www.michigan.gov/westnilevirus. This site contains general information about WNV as well as up-to-date information and maps reporting surveillance activity around the state. It is designed to provide information to both the public as well as health care providers and other professionals concerned about WNV. Reports of dead corvids (crows, blue jays, and ravens) continue to be an important surveillance tool for assessing the potential risk of human infection. Citizens wishing to report sightings of dead birds can access the Sick or Dead Bird Report Form available on the website. Appropriate (based on zip code) bird specimens may also be collected by local health authorities for testing at Michigan State University.

The Michigan Department of Community Health's Bureau of Laboratories will continue to test human specimens for WNV and other arboviruses in 2003. Information about specimen submission is available on the WNV website under Human Health Issues, "Specimen Collection and Submission Instructions." Cerebral spinal fluid continues to be the preferred specimen for arbovirus testing. Studies on serum have shown that IgM antibodies to WNV can be

detected for more than 500 days post onset in more than 60% of patients exposed to WNV. As a result, MDCH will be requiring the submission of acute and convalescent serum pairs for WNV testing in 2003. Special arrangements for testing on single serum specimens can be made with the MDCH Lab in the case of patients with neurologic signs and no CSF specimen available (call 517-335-8063 and ask for the Virology Section Manager for more information). Specimens sent to commercial laboratories will continue to require confirmatory testing at MDCH in 2003. WNV illness is a reportable condition in Michigan. Questions about recent organ donation/transplant, blood donation/transfusion, and pregnancy/nursing have been added to the case report form for 2003. Report forms are available on the WNV website under Human Health Issues, "Case Reporting".



New Employees

Yolande Moore has recently joined the Bloodborne Infections and STD Epidemiology section as the new Perinatal Surveillance Assistant. She will be abstracting medical information on HIV positive mothers and their children and handle adult HIV reporting for Washtenaw, Monroe, and Lenawee counties. Her most recent work history was with the STD program at the Detroit Health Department as a Partner Counseling & Referral Services Disease Intervention Specialist (PCRS/DIS) for HIV/AIDS. She has a degree from Michigan State University in General Engineering.

Shevon Desai is the new Publications Assistant for the NIOSH Occupational Health Surveillance Project and other projects in the Division of Environmental and Occupational Epidemiology. Desai will edit reports, prepare educational materials, maintain the Division's website, and assist in administrative activities in the Division. Desai has a B.A. from Rice University with a major in English Literature and Policy Studies.

Jada Williams, M.S.P.H., is the new West Nile Surveillance Coordinator in the Infectious Disease Epidemiology section. She attended the University of Michigan and received a B.S. in Biopsychology and attended Tulane School of Public Health & Tropical Medicine and received a M.S.P.H. in Environmental Health. Previously, she worked as a volunteer with Operation Crossroads Africa and spent two months in Uganda.

