

Michigan Smoke-Free Air Law a Landmark Leap Toward Improving Public Health

A look at current smoking and secondhand smoke exposure among Michigan adults - Michigan Behavioral Risk Factor Survey, 2008

Chris Fussman, MS
 Behavioral Risk Factor Surveillance System Epidemiologist
 DIVISION OF GENOMICS, PERINATAL HEALTH AND CHRONIC DISEASE EPIDEMIOLOGY

Kathie Boynton
 Tobacco Statistician
 DIVISION OF CHRONIC DISEASE AND INJURY CONTROL

Ann Rafferty, PhD
 Senior BRFSS Consultant
 DIVISION OF GENOMICS, PERINATAL HEALTH AND CHRONIC DISEASE EPIDEMIOLOGY

What is the Behavioral Risk Factor Survey?

The **BRFS annual reports** highlight key health risk behaviors, health indicators, and diseases in Michigan. Data results are presented by age group, gender, race, education level, and household income level. There is also a special BRFSS section summary which compares Michigan estimates to the national median.

Current Smoking

Cigarette smoking and exposure to secondhand smoke are responsible for 443,000 premature deaths in the United States each year.¹ Based on data from the CDC Behavioral Risk Factor Surveillance System (BRFSS), approximately one-fifth of the adult population in the United States (18.3%) and Michigan (20.5%) were classified as current smokers in 2008.²

When investigating the trend in current smoking over time, adults in both the United States and Michigan have experienced decreases in the prevalence of smoking over the past ten years (Figure 1).

Although the data show a decreasing trend in current smoking over time, in Michigan the annual prevalence of smoking has been consistently higher than that of the U.S. median.

Secondhand Smoke Exposure

Exposure to secondhand smoke (SHS) is an extremely serious health hazard. SHS exposure has been implicated in a wide range of adverse health effects, including lung cancer, asthma, chronic obstructive pulmonary disease (COPD), and heart disease.³

To further assess SHS exposure within Michigan, several questions were added to the 2008 Michigan Behavioral Risk Factor Survey (MiBRFS). These questions focused primarily on recent exposure to SHS that had occurred within the respondent's home, car, place of work, and within the bar(s) or restaurant(s) that they had visited within the past 7 days.

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Prevalence of Smokers, Michigan and U.S., 1999-2008

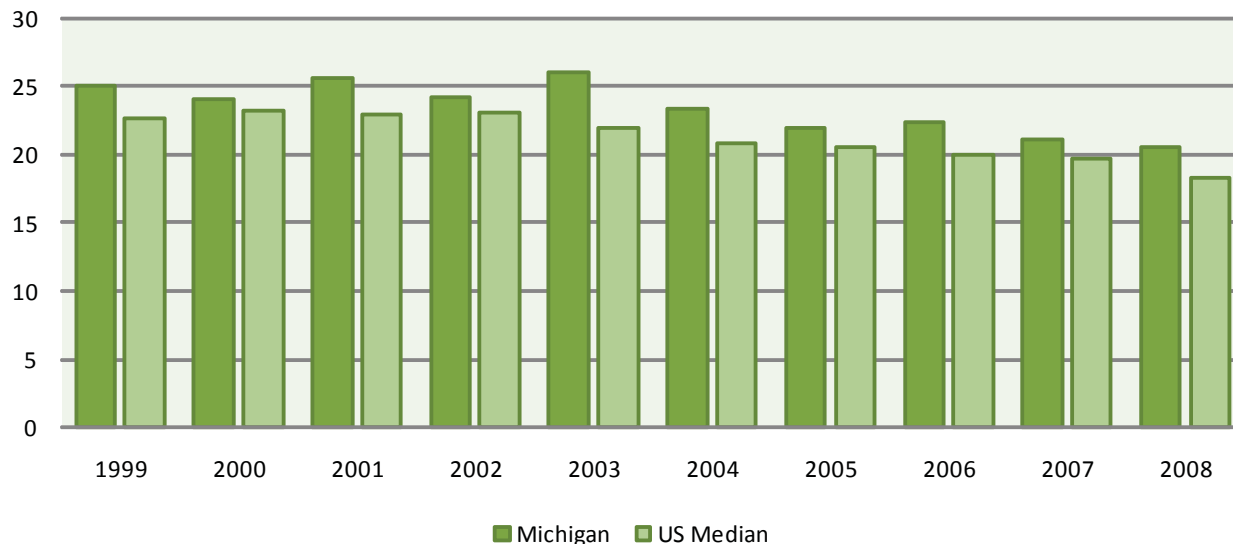


Figure 1: Prevalence of current smokers within Michigan and the United States over the past ten years - CDC Behavioral Risk Factor Surveillance System

EPI Insight returns

On behalf of the Michigan Department of Community Health's Bureau of Epidemiology, I am pleased to announce the return of EPI Insight, our biannual bureau newsletter. The goal of this publication is to let our epidemiology partners statewide know who we are, what we do, and the array of services we provide as the epidemiological unit of the Michigan Department of Community Health.

After a two-year hiatus, EPI Insight is back with a few changes, both in content and design. Because the newsletter has a broader audience than when it debuted more than a decade ago, it will no longer contain the bureau's general employee announcements such as new hires, promotions and staff presentations. However, we will continue to recognize our employees who have had their work featured in national-level peer-reviewed publications, as well as recipients of major awards and grants.

The Bureau of Epidemiology advances and promotes the health and quality of life of Michigan residents by responding to infectious disease outbreaks and chemical exposures; collecting, analyzing, and reporting statistics on a wide variety of health topics including immunizations, injuries, cancer, diabetes, communicable diseases and HIV/AIDS; improving access to and quality of public health services by evaluating state programs and related healthcare systems; and by guiding health policy by presenting state and local public health agencies, community-based organizations, healthcare providers, and others with data on the health and well-being of state residents.

Through EPI Insight you will learn more about the Bureau of Epidemiology programs that play a vital role in these efforts, and the employees who collaborate with local health departments, hospitals, community health centers, practitioners, community agencies and organizations throughout the state and nation to improve the health status of Michigan residents.

Regards,



Corinne Miller, DDS, PhD
State Epidemiologist
MICHIGAN DEPARTMENT OF COMMUNITY HEALTH



Staff from the Division of Environmental Health's Toxicology and Response Section hosted a booth at Detroit's Shiver on the River event on Belle Isle in early February. They shared information on choosing safe fish from the Detroit River, displayed the new advisory signs that will be posted along the river this spring and promoted their efforts with "Eat Safe Fish" temporary tattoos for all ages.

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EPI Insight is published twice a year by the Michigan Department of Community Health's Bureau of Epidemiology to provide information to the public health community. If you would like to be added to the EPI Insight e-mail distribution list, please call (517) 335-8165.

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The Bureau of Epidemiology: 137 Years of Evolution

Jennifer C. Beggs, MPH
Infectious Disease Epidemiologist
 COMMUNICABLE DISEASE DIVISION

Epidemiology (ep-i-de-mi-ol-o-gy) circa 1860 n. 1: a branch of medical science that deals with the incidence, distribution, and control of disease in a population 2: the sum of the factors controlling the presence or absence of a disease or pathogen.

Building Blocks of a Bureau: 1872

Dr. Henry B. Baker, a Civil War surgeon, is credited with the title, “Michigan’s Father of Public Health.” Dr. Baker envisioned and actively advocated for the creation of a state board of health (BOH). He enlisted the assistance of Dr. Ira Bartholomew, and together, they recruited additional physicians to their cause.

By 1872, Dr. Bartholomew was elected to the legislature and subsequently sponsored a bill that was to establish the board. On July 30, 1873, Michigan was the fifth state in the nation to establish a BOH.

Dr. Baker served as the first BOH secretary and was appropriated \$4,000. His duties outlined in legislation included:

“... make sanitary investigations and inquiries respecting the causes of diseases, and especially of epidemics, the causes of mortality, and the effects of localities, employment conditions, ingesta, habits, and circumstances on the health of the people.”

The BOH was responsible for preventing and controlling many of the diseases that the Bureau of Epidemiology still confronts today.

Leading Causes of Death in Michigan, 1873	
Cause	Reports
Phthisis (consumption of lungs)	1,460
Typhoid Fever	677
Scarlatina	580
Developmental Diseases of Children	459
Stillborn	274
Teething	106
Spinal Fever	428
Old Age	428
Accidents of Negligence	405
Diarrhea	383
Cephalitis	334
Heart Disease	329

“Epidemiology” Conceptualized: 1962

Reminiscing about 1962 may lead to memories of when two of the high-wire “Flying Wallendas” were killed when their famous 7-person pyramid collapses during a performance in Detroit, First Lady Jacqueline Kennedy provided a television tour of the White House, West Side Story won Best Picture, the Beatles released their first single titled *Love Me Do*, and the Cuban Missile Crisis almost resulted in nuclear war.



Michigan children were among the first in the nation to receive Salk polio vaccine. Nearly half a million doses of Salk vaccine were distributed by the department’s Division of Epidemiology in 1962. [Photo source: Michigan’s Health Fall 1973 newsletter, a publication of the MICHIGAN DEPARTMENT OF PUBLIC HEALTH.]

In addition to these events, the importance of “epidemiology” was truly recognized by state officials, which was when the Division of Epidemiology was established. The initial accomplishments of the Division included distribution of nearly a half-million doses of Salk polio vaccine and promotion of phenylketonuria (PKU) testing to detect a genetic disorder that effects brain development.

Present Day: 2010

The Michigan Department of Community Health was created through executive order in 1996. The Bureau of Epidemiology came into fruition in 1997. Michigan’s public health programs were appropriated over \$13 billion dollars for 2010 – nearly 3,250,000 times the original amount of funding received in 1873. The Bureau of Epidemiology now includes the Divisions of Environmental Health, Communicable Disease, Immunization and Genomics, Perinatal Health and Chronic Disease Epidemiology. Dr. Corinne Miller serves as the State Epidemiologist. Throughout the years, the epidemiologic profiles and projects undertaken by the Bureau have been a critical component to understanding and promoting the health of Michigan’s citizens.

[References: Michigan Department of Public Health. 1973. Today and a Century Ago. Michigan’s Health 61 (3): 1-9.]

New Seasonal Flu Recommendations: Not Too Late to Vaccinate

Cristi Carlton, MPH
 Vaccine Preventable Disease
 Epidemiologist
 DIVISION OF IMMUNIZATION

Influenza (flu) season typically spans October through April each year. During an average year, an estimated 5-20% of Americans get the flu, approximately 36,000 die and more than 200,000 are hospitalized from flu-related complications.

The Centers for Disease Control and Prevention (CDC) recommends flu vaccination throughout the entire flu season in order to protect as many people as possible from influenza disease, its complications, and death. However, national and Michigan data show that most seasonal flu doses are given in a short 2-3 month window early in the flu season every year, despite almost yearly expansions in the groups recommended for annual immunization by the CDC Advisory Committee on Immunization Practices (ACIP).

Figure 1 shows influenza-like illness surveillance data and seasonal influenza vaccine administration data recorded in the Michigan Care Improvement Registry

(MCIR) from the 2004-05 through the 2008-09 flu seasons. The majority of flu vaccine doses in Michigan are administered in the beginning of October; administration peaks in mid-November, and then gradually declines. However, on average, the number of visits for influenza-like illness (ILI) does not peak until mid-February.¹ By not expanding vaccination efforts throughout the winter and into the spring, health care providers are missing opportunities to protect millions of people from influenza disease.

With such high rates of morbidity and mortality, it is a public health priority to better educate both providers and the public. Providers should start administering vaccine as soon as it becomes available in August and continue vaccinating throughout the entire flu season. In addition, the public needs to be educated that if they do not receive flu vaccine in the fall, they should still seek flu vaccine throughout the entire winter and into spring. Changing the way we vaccinate against influenza is more important now than ever before.

On February 24, 2010, the ACIP voted to expand annual seasonal flu

recommendations to everyone 6 months and older during the 2010-11 flu season. The new recommendation signals the importance of preventing influenza across the entire population. With the new vaccination recommendations, almost all Americans should receive a flu vaccination. More time will be needed to vaccinate and more influenza vaccine doses will be required to vaccinate the population. Based on current projections, more licensed types and brands of seasonal influenza vaccines will be available in the 2010-11 influenza season than has ever been available before.

Influenza vaccination is safe and can benefit all age groups. Please continue to vaccinate patients against seasonal and H1N1 influenza. Providers who don't have seasonal influenza vaccine or H1N1 influenza vaccine can direct patients to the new Google Flu Shot Finder at <http://www.google.com/flushot>.

¹Average ILI calculated from the 2004-05 flu season through the 2008-09 flu season from sentinel sites reporting to the Michigan Component of the CDC's Outpatient Influenza-like Illness Surveillance Network.

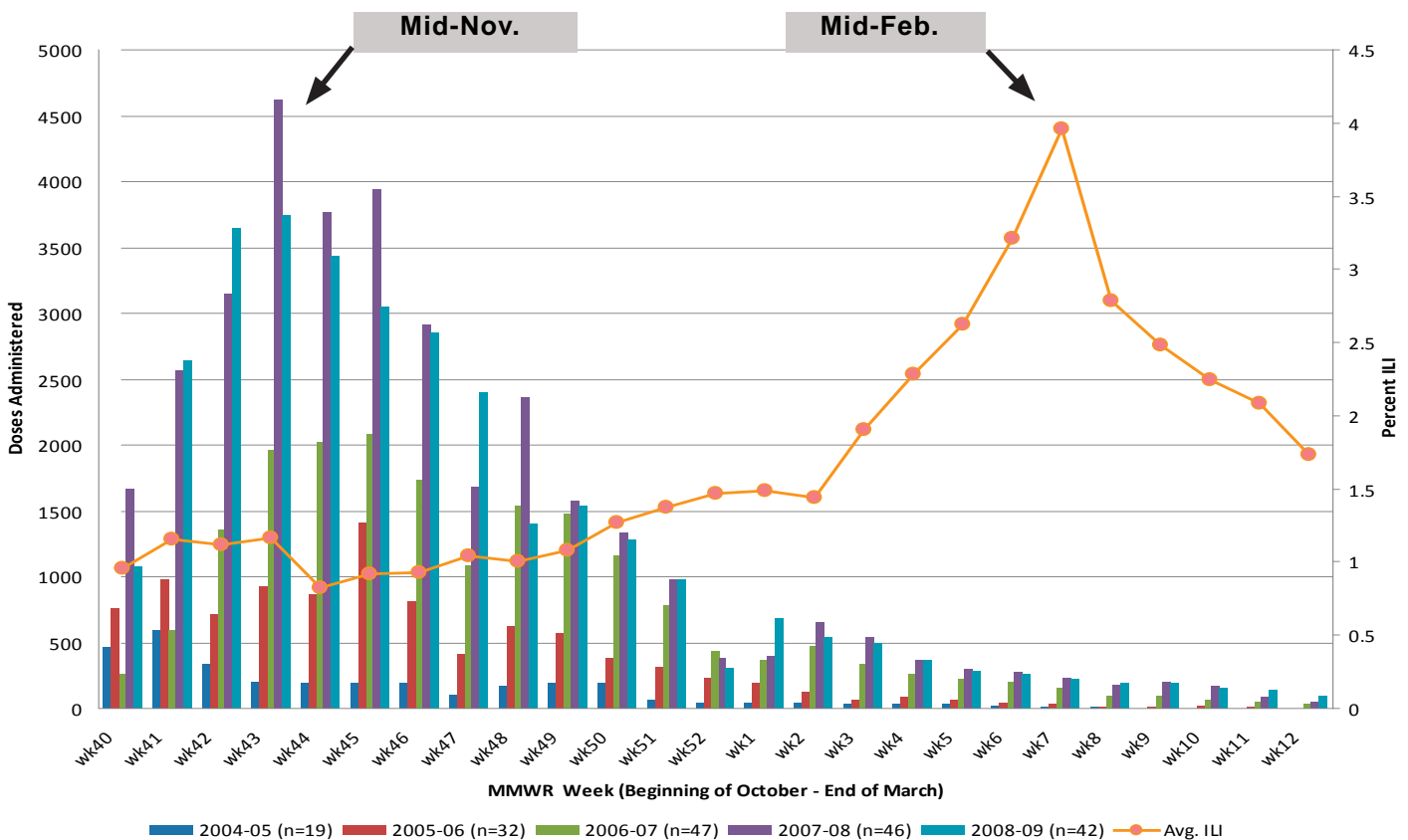


Figure 1: Doses administered (per MCIR) at select influenza sentinel sites in Michigan & percent of visits due to influenza-like illness (per ILINet): 2003-04 through 2008-09 flu seasons. (n= # of sentinel sites)

Points From the SHARP Bin

New Surveillance Initiative at MDCH

Judy Weber, MPH
Hospital Liaison - SHARP Unit
COMMUNICABLE DISEASE DIVISION

In August 2009, the Michigan Department of Community Health (MDCH), Bureau of Epidemiology received funding through the American Recovery and Reinvestment Act to expand their surveillance and prevention activities for healthcare-associated infections (HAIs). This funding was assigned to the new Surveillance of Healthcare-Associated & Resistant Pathogens (SHARP) Unit in the Surveillance and Infectious Disease Epidemiology Section within the Division of Communicable Disease.

Under this new initiative, the SHARP Unit is recruiting hospitals to voluntarily share their HAI data being collected and submitted to the Centers for Disease Control and Prevention (CDC) through the National Healthcare Safety Network (NHSN). NHSN is a voluntary, secure, internet-based surveillance system that integrates and expands patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion at CDC. Enrollment in NHSN is open to all types of healthcare facilities in the United States, including acute care hospitals, long-term acute care hospitals, ambulatory surgery centers, and long-term care facilities, among others.

The SHARP Unit received a \$685,729 grant through the American Recovery and Reinvestment Act.

The funding will be used to expand surveillance for healthcare-associated infections (HAIs) in hospitals and work with partner agencies to make significant progress toward preventing them. Use of the funds will also build a sustainable state infrastructure for HAI-related activities.

Initially, the SHARP Unit is focusing on acute care hospital reports of methicillin-resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*, collected through the Lab ID Event option of the Multi-Drug Resistant Organism / *Clostridium difficile*-Associated Disease module of NHSN. Hospitals wishing to participate in this surveillance activity must first be enrolled on NHSN through CDC and then voluntarily agree to participate with the SHARP Unit by signing a Data Use Agreement which protects hospital identity and data. Participating hospitals then confer rights to allow SHARP/MDCH to view their data.

Data from participating hospitals will be de-identified and aggregated by the SHARP Unit and monitored over time for changes in infection rates. The data will also be compared to national rates and trends. Quarterly reports of aggregated HAI data from participating hospitals will be posted on the new MDCH HAI website at www.michigan.gov/hai.

The SHARP Unit is also partnering with the Michigan Health and Hospital Association and with MPRO by participating in their prevention collaboratives. These collaboratives focus on reducing catheter-associated urinary tract infections and MRSA infections, respectively.

For additional information regarding these new initiatives in the SHARP Unit, contact Jennie Finks, DVM, MVPH, Antimicrobial Resistance Epidemiologist and Unit Leader, or Judy Weber, MPH, Hospital Liaison, at (517) 335-8165.

CDC Influenza Epi-Aid Team Welcomed by MDCH

The Centers for Disease Control and Prevention (CDC) deployed an Epi-Aid Team to the Michigan Department of Community Health (MDCH) for approximately four weeks during November and December 2009.

The Epi-Aid Team developed and disseminated surveys to local health department (LHD) health officers, school superintendents and principals, teachers, and parents. The purpose of the Epi-Aid was to:

- evaluate LHD communication with the school community that may influence school closures associated with 2009 H1N1 influenza;
- evaluate external factors (e.g., demographic characteristics of the community) that may influence LHD communications with the school community;
- evaluate external factors, such as demographic characteristics of schools, which may influence school closure;
- identify operational factors, including policies and practices, which may influence school closures related to 2009 H1N1 influenza;
- assess current practices for prevention and control of influenza in the classroom and home environment of children attending school.

Complete analysis of the surveys is expected by summer 2010.

Public health is prevention. It is the combined efforts of a people - spearheaded by professional public health and voluntary agency workers - to improve their general well-being. The success of public health efforts in any one year is difficult to measure, since it's what didn't happen that counts - that which was prevented. How does one go about counting the number of cases of disease that were prevented by immunizations? How do you count the number of mothers who did not die in childbirth last year, or the number of newborn infants who were spared the ravages of a diarrhea epidemic in a hospital nursery? In these, and in all of the other public health programs - some of them dramatic, some of them routine - prevention has been the key to progress, the ultimate goal.

~ MICHIGAN DEPARTMENT OF PUBLIC HEALTH 1963 ANNUAL REPORT

Bed Bugs are Back: Implications for Public Health

Erik Foster
Medical Entomologist
COMMUNICABLE DISEASE DIVISION

The human bed bug (*Cimex lectularius* – Figure 1) is the most rapidly emerging public health pest in North America. The bed bug is a nocturnal, bloodsucking ectoparasite supremely adapted to human living environments. Infestations may lead to measurable physical and mental health effects. It is thought that increasing tourism, interconnectedness of global economic markets, pesticide resistance, and a modern lack of institutional knowledge about the pest have led to a dramatic resurgence over the last decade. Public health authorities from New York to San Francisco have seen reports of infestations increase up to ten-fold, and the pest management industry has seen significant increases in business related to bed bugs.

This “Bogey in the Night” was once very common with some pre-WWII estimates placing the infestation rate of homes in the U.S. at 10-30%. The wide use of the organochlorine insecticide DDT during this era (which was used to control typhus and malaria in troops and civilians) and increases in sanitation and public health are thought to have led to a dramatic decline in bed bug populations.

Human bed bugs are almost always associated with human dwellings as they require proximity to sleeping hosts for their food supply. Thus, in Michigan and elsewhere, they are found primarily in homes, apartments, hotels, shelters, and dormitories. It is important to note that the presence of bed bugs in human dwellings is not necessarily associated with deficiencies in cleanliness and personal hygiene. They are an equal opportunity pest that only requires a warm, sleeping body and a place to hide nearby.

Bed bugs are difficult to control because they are so skilled at hiding, which allows them to travel in our belongings (clothing items, luggage, furniture, electronics, etc.) without our knowledge. Most people do not even realize they have visited somewhere with an infestation, and bring the bed bugs back to their residence unwittingly. Once established in a residence or unit in a building, the bed bugs can travel between rooms or apartments through walls and conduits, or easily on people’s clothing or other belongings.

Bed bugs normally feed late at night or early in the morning when the host is in deepest sleep. Most people are unaware when being fed upon – the bed bug is stealthy and even the penetration of its mouthparts into the skin can barely be felt because its saliva contains desensitizing agents. The bite sites are usually small, pinprick-sized lesions that may or may not cause local inflammation. Reactions to bed bug bites vary from person to person. Most people show no reaction the first time they are bitten, but subsequent bites may develop into welts that itch, some more than others. Some people react severely with welts that itch for weeks.

While blood-borne pathogens have been detected in recently fed bed bugs, there is little evidence in the literature that they transmit communicable diseases between people. The physical effects of bed bug bites vary widely, ranging from little reaction to permanent scarring and allergic sensitization. Other health and economic effects may include:

- Anemia from prolonged exposure to large infestation
- Potentially exacerbated asthma symptoms from cast skins
- Psychological impacts including repulsive reaction, stress, anxiety, social isolation, and loss of sleep and productivity



Figure 1: Lateral view of an adult human bed bug (*Cimex lectularius*) feeding on a “volunteer.” Photo: Piotr Naskrecki, courtesy of CDC Public Health Image Library.

- Financial stress due to the high cost of pest management, replacement of furniture and personal items, physicians visits, and time away from work
- Some people are driven to take extreme actions to rid themselves and their homes of these pests, potentially harming themselves and their families with pesticides or other hazardous methods (see sidebar, page 7).

The recent resurgence of bed bug infestations in North America has public health authorities, regulatory agencies, the lodging industry, pest managers, property managers and the public scrambling for information and solutions. In Michigan, evidence from these sources point to significant levels of infestation in our urban environments, particularly in multi-unit housing situations. In these regions, infestations have increased to epidemic levels (Figure 2). Rapidly increasing reports and complaints also highlight the need for attention to vulnerable populations, such as senior living facilities, adult foster care, and homeless shelters.

Public complaints have been varied, and speak to the complexities of dealing with bed bug infestations. Because of the challenging scope of this issue, a multi-faceted approach must be taken to infestation management and community outreach:

Knowledge Base/Educational Needs

- Institutional Knowledge: Training is needed for “frontline” staff of impacted agencies. These staff are often the first to receive complaints and if provided training can help to direct those affected to appropriate assistance. This effort is ongoing by the Michigan Department of Community Health (MDCH) and partner agencies.
- Resources: Addressing educational needs in the areas of protocols & recommendations for management, worker protection issues, and pesticide safety issues. MDCH has established a web-portal at www.michigan.gov/bedbugs to provide “Michigan-centric” information to the public, and a comprehensive manual will be published to the site soon.

Economic Issues

- Cost of Treatment: The high cost of bed bug treatment and repeated visits is prohibitive to low-income or fixed-income individuals as well as property managers and landlords. Arguments between parties about economic responsibility for treatment cause delays, further intensifying and spreading infestations.

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Sexually Transmitted Diseases in Michigan: *Focus on Racial Disparities*

Kathryn E. Macomber, MPH
STD Epidemiologist
COMMUNICABLE DISEASE DIVISION

Sexually transmitted diseases (STDs), also known as sexually transmitted infections and venereal diseases, are those that are mainly transmitted from one person to another during sex. There are at least 25 different STDs with a range of different symptoms, which can be caused by bacteria, viruses, fungi, parasites or protozoans. Three of the more common STDs in Michigan are discussed below. More information about STDs can be found on the [Michigan Department of Community Health Communicable Disease Information & Resources webpage](#).

Chlamydia

Chlamydia is a bacterial infection that can damage a woman's reproductive organs. Although the symptoms of chlamydia are usually mild or absent, serious complications can cause irreversible damage, including infertility. Complications among men are rare.

Michigan reported a preliminary 45,559 chlamydia cases in 2009, 75% which were among females. Since 1999, chlamydia cases have steadily increased overall in females and have steadied in the last few years. The overall rate in 2009 for chlamydia was 465 per 100,000 overall and 674 per 100,000 among females. In 2009, 33% of chlamydia cases were African American, which is significant as African Americans make up only 14% of the Michigan population. The rate among African American females is nearly nine times the rate of chlamydia among white females. The largest group of cases is found in those 15-19 (45%) and 20-24 (34%). The rate is 6.5 times the overall female rate for 15-19 year olds and 5.3 times the overall rate for 20-24 year olds.

Gonorrhea

Gonorrhea is a bacterial infection that may or may not cause symptoms, but untreated gonorrhea can cause serious and permanent health problems in both women and men.

Michigan reported a preliminary 14,465 cases of gonorrhea in 2009, 59% which were among females. Reported cases of gonorrhea and rates among females have remained stagnant for the past 10 years, which is reflective of national trends. 2010, however, shows the first decrease in the past several years. The overall rate of gonorrhea in 2009 was

146 per 100,000 and 167 per 100,000 among females. There are huge racial disparities with gonorrhea. In 2009, 45% of gonorrhea cases were African American. The rate among African American females is nearly 18 times the rate of gonorrhea among white females. The largest number of cases is found in those 15-19 (41%), 20-24 (32%), and 25-29 (12%). The rate among 15-24 year olds is 5.5 the statewide average among females.

Syphilis

Syphilis is a bacterial infection where so many of the signs and symptoms are indistinguishable from those of other diseases. Many people infected with syphilis do not have any symptoms for years.

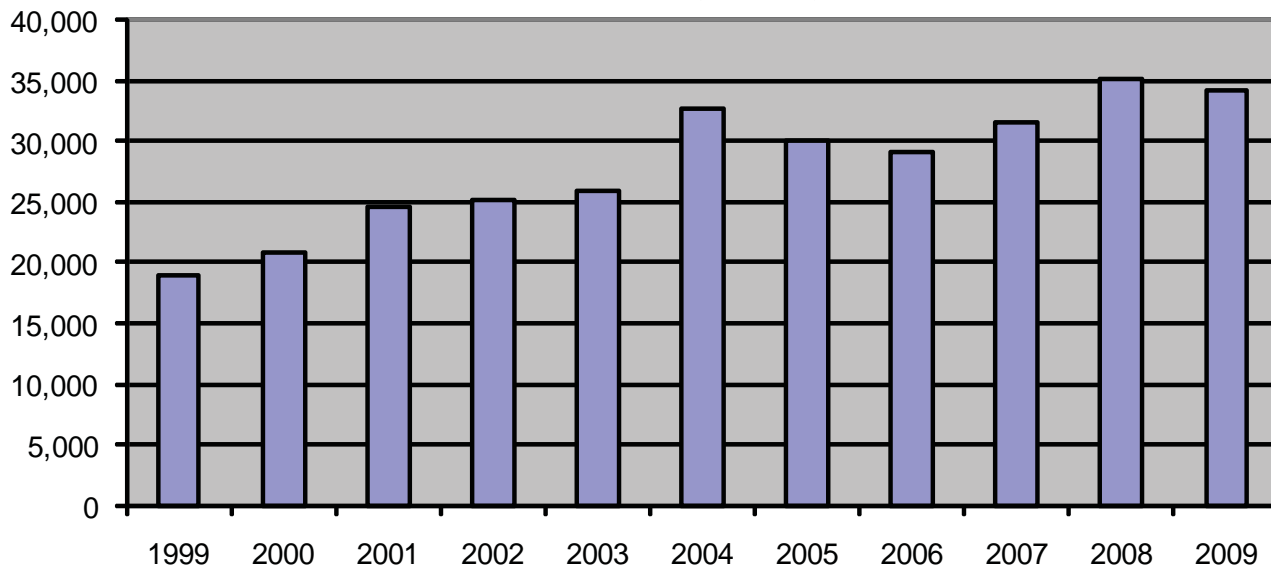
A total of 39 primary and secondary syphilis cases were reported among females in 2009. Although overall, primary and secondary syphilis cases have increased in 2009 compared to 2008, a decrease is seen among females. The vast majority of this decrease is due to control of a syphilis outbreak in Genesee County. In 2008, 33 female cases were reported in Genesee County, compared to only 7 this year. The majority of syphilis cases reported among females reside in Detroit (54% of 2009 cases) and are African American (32 out of 39). The female rate in 2009 is 0.8 per 100,000 however, among African American females it is four per 100,000. There were more female syphilis cases reported among 20-24 year olds in 2009 compared to 2008.

Congenital Syphilis

Congenital syphilis is a severe, disabling, and often life-threatening infection seen in infants. A pregnant mother who has syphilis can spread the disease through the placenta to the unborn infant.

Prevention of congenital syphilis depends on screening, treatment, and follow-up for pregnant women with syphilis. Michigan has worked very hard in the past few years to improve screening adherence for pregnant women, follow women with a history of syphilis to delivery, to avoid congenital syphilis diagnoses, and to treat all women appropriately. As a result, only four cases of congenital syphilis were reported in Michigan in 2009. These cases resided in Genesee (2), Detroit (1), and Washtenaw counties (1).

Chlamydia Cases Among Michigan Women



Effect of H1N1 on MI School Closures during Fall 2009

Jamey Hardesty
Influenza Systems Epidemiologist
COMMUNICABLE DISEASE DIVISION

Edward F. Hartwick
GIS Specialist, MS
COMMUNICABLE DISEASE DIVISION

During the fall of 2009, the United States public health community recorded a second, significant wave of illness attributable to the re-emergence of the 2009 Novel Influenza A H1N1 virus. Michigan Disease Surveillance System (MDSS) data can be used to demonstrate that the majority of Michigan's confirmed pandemic influenza cases occurred between October and December 2009, with activity peaking during the final two weeks of October.

In early October, reports of influenza-like illness (ILI) cases began to increase in Michigan (source: MDSS). This increase was concurrent with notifications of school closures in Southwest Michigan. On October 16 three schools had been reported closed in Michigan. By the following week, 267 schools were closed, peaking on Friday, October 23, when a total of 240 schools closed (the date of Michigan's highest level of active closures).

Throughout the fall, Central-West and Southwest Michigan reports accounted for 45% of all school closures for the entire state. Most of the state's closures (78%) were recorded between October 11 and October 31 (see map). After the peak, reports of school closures declined throughout November, with none reported after the Thanksgiving break.

MDCH staff has also examined the data to demonstrate the use of school closure data as a proxy for school-based ILI reports (which become less consistent as schools throughout the state close). School-based ILI reports represent a key component of the influenza surveillance data and contribute to the determination of the level of ILI in the community.

ILI reports coming through the MDCH's surveillance systems did demonstrate regional increases that were consistent with localized school closings. These data also contributed to direct a Centers for Disease Control and Prevention (CDC) investigation of the Michigan experience that included surveys of local public health agencies, school administration and faculty and parents throughout the state. Results of those analyses are pending.

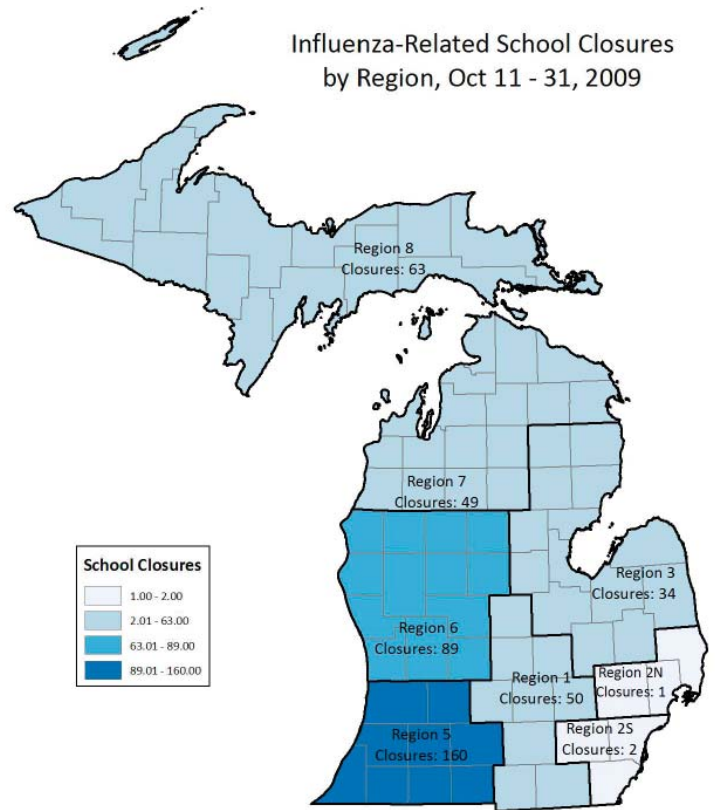
During the fall wave of the pandemic, the Michigan Department of Community Health and the Michigan Department of Education partnered in aggressively seeking to identify schools in the state that had closed due to illness. Data on school closures were collected through survey of local media outlets, reports from the CDC School Closure Reporting System, and reports from local health departments. This information was confirmed by MDCH Regional Epidemiologists and entered into databases. Daily summaries and maps were produced and uploaded to the MDCH H1N1 Influenza website.

The Association of State and Territorial Health Officers has acknowledged the success of these surveillance activities and shared this model with partner agencies via a "Best Practices" website.

In 1957, the Michigan Department of Public Health was among the first such agencies in the nation to provide for free distribution of polio vaccine for children and pregnant women.

Michigan's Health Fall 1973 newsletter,
a publication of the MICHIGAN DEPARTMENT OF PUBLIC HEALTH

Influenza-Related School Closures
by Region, Oct 11 - 31, 2009



Michigan Achieves CDC PHIN Certification for Tuberculosis and Varicella Case Notification Messaging

On February 28, Michigan became the 17th state, and 6th out of 34 not using a Centers for Disease Control and Prevention (CDC) built system, to achieve CDC Public Health Information Network (PHIN) Certification for both Tuberculosis and Varicella Case Notification Messaging. This achievement represents a significant step in interoperable communications among public health systems in Michigan.

In the award announcement, CDC's PHIN Certification Program Manager Mark Winarsky stated, "Michigan's efforts and willingness to successfully complete this task is noteworthy, and should be commended. It demonstrates Michigan's commitment to implement PHIN standards and practices that improve your overall capacity to exchange electronic public health information across jurisdictional lines, a benefit during both emergency and day-to-day operations."

PHIN Certification provides an objective assessment, designed to evaluate the compliance of public health information systems with *PHIN Requirements Version 2.0*. The goal of PHIN Certification is to support the development and implementation of applications and information systems that comply with the PHIN Requirements to help ensure that public health partners can securely, effectively and efficiently exchange data.

PHIN Certification is designed to provide meaningful targets and a consistent method to report capabilities and demonstrate progress. It offers flexibility to support the evolving nature of PHIN and the Nationwide Health Information Network.

Work is already underway on certification for Generic Case Notification Messaging and will continue on for several more years as CDC develops and deploys new messaging guides and certification standards.

Smoking trends examined in behavioral risk factor survey

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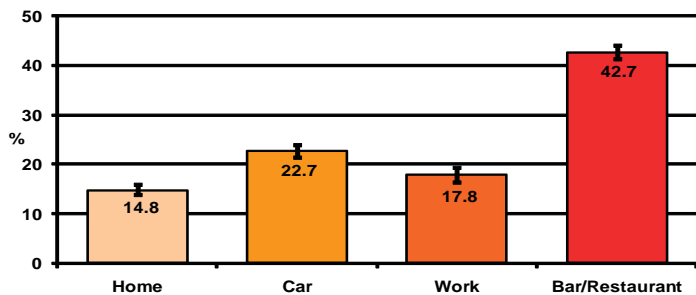


Figure 2: Prevalence of secondhand smoke exposure within the past seven days, by location - 2008 Michigan Behavioral Risk Factor Survey

Among Michigan adults, 14.8% were exposed to SHS in their home within the past seven days; 22.7% in their car; 17.8% at their place of work, and 42.7% at a bar or restaurant they had visited within the past seven days (Figure 2).

As indicated by the data presented in Figure 2, Michigan residents can be exposed to SHS through a variety of different avenues. All sources of SHS are capable of drastically affecting one's health, but in Michigan the primary source of SHS exposure is obtained through visits to bars and restaurants. Furthermore, 90% of Michigan adults indicated that they were aware that being exposed to secondhand smoke was very or somewhat harmful to one's health.

Due to increased public demand, in December 2009, the Michigan legislature passed the Dr. Ron Davis Smoke Free Air Law that prohibits smoking in workplaces, including public buildings, offices, hotels, restaurants and bars. This law is scheduled to go into effect on May 1, 2010.

The data presented above clearly show that smoking and secondhand smoke exposure continue to be problems within the State of Michigan. Cigarette smoking has been on the decline in Michigan over the past several years, but still remains above the U.S. median.

With the passage of the Dr. Ron Davis Smoke Free Air Law, the State of Michigan has made a giant leap toward improving the health of its residents.

For more information about this law please visit Michigan's Dr. Ron Davis Smoke Free Law website at: www.michigan.gov/smokefreelaw.

References:

1. Centers for Disease Control and Prevention (CDC). *Smoking-attributable mortality, years of potential life lost, and productivity losses - United States, 2000-2004*. *MMWR*. 2008;45:1226-1228.
2. CDC Behavioral Risk Factor Surveillance System Survey Data. Atlanta, GA: U.S. Department of Health and Human Services, CDC, 2008.
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MARK YOUR CALENDARS:

When the *Dr. Ron Davis Smoke-Free Air Law* goes into effect May 1, 2010, smoking will be prohibited in most public places in Michigan. This law covers public places, including, but not limited to, restaurants, bars, shopping malls, bowling alleys, concert halls, arenas, museums, mechanic shops, health facilities, nursing homes, education facilities, and child care centers.

Regional Epidemiologists Support LHD Public Health Preparedness Work Plan

The Regional Epidemiology Unit has been providing significant support to local health departments in the areas of epidemiology and surveillance. One of the projects involves the Public Health Preparedness Local Health Department Work Plan. This plan requires an enhanced analysis of communicable disease data to help local health departments build their epidemiology capacity and skills in using the Michigan Disease Surveillance System (MDSS).

Regional Epidemiologists support this project by developing a guidance document and an Excel work book for data exported from MDSS, which is used to complete the analysis, and by providing technical assistance in completing the required analysis. Work plan objectives are re-evaluated and updated every year to focus on building skills in new areas.

MI joins PHEP Biosurveillance Pilot

Michigan is one of nine states participating in the CDC's Public Health Emergency Preparedness (PHEP) Biosurveillance Performance Measures pilot. This pilot will be testing performance measures of surveillance, epidemiological investigation, and laboratory for the PHEP Cooperative Agreement.

Ten local health departments have volunteered to collect and provide data for this pilot. Results will be used to determine which measures are rolled out to PHEP awardees in upcoming budget periods. The project period runs from April 1 to September 30, 2010, with data collection occurring from April 1 through July 31. ERIE and Regional Epi Units will be involved in this pilot.

In the next edition of EPI Insight:

We focus on the Bureau of Epidemiology's youth programs, services and research, including a look at the newborn screening program and a report on Sudden Cardiac Death of the Young.

BOE Spotlight

Publications, Grants and Awards

Publications

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Weston, AL and Enger, KS. Factors Associated with Hepatitis A Vaccination Receipt in One-Year-Olds in the State of Michigan. *J of Biomed and Biotech*, vol. 2010, Article ID 360652, 7 pages, 2010. doi:10.1155/2010/360652

New Grants

Janice Bach, Glenn Copeland and Birth Defects Team of the Genomics, Perinatal Health, and Chronic Disease Epidemiology Division received a grant through the CDC Cooperative Agreement for Improving Birth Defects Surveillance in Michigan through Enhanced Data Quality, Utilization and Evaluation.

New Grants

MDCH was awarded approximately \$2.3 million of the American Recovery and Reinvestment Act (ARRA) funds to increase immunizations in Michigan. Funding will go to local health departments (LHDs), the Michigan Care Improvement Registry (MCIR), Children's Vaccination Station at Children's Hospital and opening up a new vaccination clinic for women at Sinai Grace.

The majority of the funding is being spent on vaccines for two programs. The new adult immunization campaign will allow for certain vaccines (HPV4, PPSV23, Varicella and Zoster) to be given to uninsured and underinsured persons age 19 years and older within LHD clinics. This will provide a great opportunity to catch up many adults on recommended immunizations.

This grant will also be used for adolescent vaccines for the upcoming 2010-11 school year. This fall, all sixth grade students who are 11 years of age and older, as well as all children 11 through 18 years of age who are changing school districts will be eligible for vaccines under this program. These vaccines will be offered by some local health departments throughout the state. Operational funds have also been allocated to the LHDs to support the new Adult Immunization Campaign.

In 2009, the Division of Environmental Health (DEH) received several grants to fund division programs and initiatives.

The Toxicology and Response Section received funding from the US Environmental Protection Agency's Great Lakes National Program Office and Land and Chemical Division to conduct health education outreach activities in the Saginaw watershed.

The DEH received a one-year grant from the Association of State and Territorial Health Officials to develop a strategic plan for addressing the public health impacts of climate change in Michigan.

The DEH Healthy Homes Section was funded by U.S. Department of Housing and Urban Development (HUD), to provide comprehensive lead hazard control program services to low-income families who occupy substandard pre-1978 privately-owned housing in six counties identified as the highest risk in Michigan, as well as other counties where children with elevated blood lead levels reside. Services include abatement of lead hazards in homes and education.

• Continued Page 12

New Grants

Violanda Grigorescu of the Genomics, Perinatal Health, and Chronic Disease Epidemiology Division received a grant for Population-Based Surveillance for Hemoglobinopathies, funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health. The CDC's National Center on Birth Defects and Developmental Disabilities developed cooperative agreements with 6 state health departments. The purpose of the project is to develop cross-sectional and longitudinal data collection models; develop a model comprehensive surveillance system; and utilize the surveillance system to inform public health planning, services, implementation, evaluation, and policy development related to hemoglobinopathies across the life span. Funding will be provided from 2010-2012.

Deb Duquette and Beth Anderson of the Genomics, Perinatal Health and Chronic Disease Epidemiology Division received a grant to study Post-Mortem Determination of Causes of Sudden Cardiac Death in the Young (SCDY). The study with Dr. Sharlene Day of the University of Michigan will compare methods of case ascertainment, determine leading causes and demographics of sudden cardiac death based on autopsy results, understand diagnoses and demographic features of SCDY occurring during or after strenuous vs. non-strenuous activity and derive more specific pathologic criteria to improve diagnostic certainty.

Upcoming Events

Newborn Screening Follow-up Family Recognition Day

is set for May 1 at the Impression 5 Science Center in Lansing, MI. The event is aimed at families whose children were diagnosed through newborn screening. Contact Carole Flevaris at (517) 335-8959 for details.

2010 Great Lakes Border Health Initiative Conference

will be held on May 18 at the Inn at St. Johns in Plymouth, MI. For more information contact Diane Krueger at (517) 335-6533 or visit http://www.michigan.gov/mdch/0,1607,7-132-54783_54875-231727--00.html.

10th Annual Michigan Communicable Disease Conference

will be held on May 20 at the Doubletree Hotel in Bay City, MI. Registration deadline is April 28. The registration brochure can be found at www.michigan.gov/cdconference.

2010 Healthy Mothers Healthy Babies Conference

will be held June 3-4 at the Comfort Inn and Suites Hotel Conference Center in Mt. Pleasant, MI. Presented by the Michigan Healthy Mothers Healthy Babies Coalition. Contact Joan Ehrhardt at (517) 335-8887 for more information.

Highlights from the 2009 H1N1 Influenza Pandemic Response

Susan Peters, DVM
Influenza Surveillance Epidemiologist
COMMUNICABLE DISEASE DIVISION

Starting in April 2009, the Bureau of Epidemiology (BOE) conducted an emergency response to the 2009 H1N1 influenza pandemic, including surveillance, data management, testing coordination, stakeholder communication, and vaccine and antiviral distribution. While response efforts continue, BOE highlights include:

Emergency Response:

- BOE staff worked 421 hours of overtime during spring 2009.
- Five BOE staff participated in 13 days of the Michigan Department of Community Health (MDCH) Community Health Emergency Coordination Center activation.
- From April 27 to May 8, 2009, BOE provided 24/7 on-call epidemiologists.
- BOE provided surveillance data for media briefings and the Centers for Disease Control and Prevention (CDC) Emergency Operations Center.
- BOE Health Alert Network updates were distributed to stakeholders.
- From April through December 2009, there were 135,061 hits to the H1N1 website and 10,080 to the seasonal website.

Disease Surveillance and Investigation:

- During spring 2009, BOE staff reviewed 876 requests for 2009 H1N1 laboratory testing.
- Influenza surveillance was expanded to include all deaths and hospitalizations, severe illnesses in pregnant women, and encephalopathy and pulmonary hemorrhage reports.
- A tri-county Emerging Infections Program study of hospitalized influenza cases was conducted.
- A new Michigan Disease Surveillance System (MDSS) form was created for 2009 H1N1 influenza cases.
- Since May 2009, 88 deaths associated with influenza have been confirmed by BOE and local health departments (82 were confirmed as 2009 H1N1).
- From September 1, 2009 – February 27, 2010, 2112 influenza-related hospitalizations were reported into the MDSS.
- BOE hosted a CDC Epi-Aid investigation regarding influenza-related school closures. (See *Epi-Aid story on page five.*)

Vaccination Efforts:

- As of February 9, 2010, 3,628 Michigan providers agreed to receive the 2009 H1N1 vaccine (compared to 1,562 Vaccines for Children providers).
- As of February 9, 2010, 1,180 additional providers enrolled in the Michigan Care Improvement Registry to provide immunization records.

ERIE Unit: ELC Workgroup Project

The Enteric and Respiratory Illnesses Epidemiology (ERIE) unit is leading a project to revise certain disease-specific questionnaires in the state reportable disease surveillance system, Michigan Disease Surveillance System (MDSS). The disease-specific forms currently under revision are Legionellosis, Salmonellosis, and Shiga toxin-producing E. coli (STEC).

The project is being undertaken in cooperation with the Epidemiology and Laboratory Capacity (ELC) workgroup, which includes representatives from various disciplines at the state and local health departments, state and clinical laboratories, and state agriculture. The aim of the project is to tailor certain sections of the forms more closely to characteristics of the individual diseases.

Some of the new information collected, focusing on specific known high-risk exposures for acquiring these conditions, is intended to enable more timely determination of the exposure source for cases and clusters, allowing faster and more specific interventions to prevent further disease in the community.