Michigan Department of Community Health
MDCH
John Engler, Governor
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EPI Insight
Bureau of Epidemiology
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Chronic Disease Indicators: Surveillance in Its Infancy

Corinne Miller

The Council of State and Territorial Epidemiologists (CSTE) has proposed a series of core epidemiology functions for state health departments, including surveillance, investigation and consultation, and policy development. Although cancer registries and other data sources have existed for a number of years, a road map to guide chronic disease surveillance did not exist until recently. It was only in late 1999 that a CSTE-led group developed approximately 70 indicators for chronic disease surveillance that included data sources, case definitions (e.g., ICD9 codes, age ranges), denominator definitions for calculating rates, rationale for inclusion, and data limitations for each indicator.(1) A further prioritization of these indicators for use in chronic disease surveillance is currently under development by CSTE.

Several of these CSTE chronic disease surveillance indicators are calculated using data from the Behavioral Risk Factor Surveillance System (BRFSS). Michigan began conducting the BRFSS in 1987 and is able to track many of these indicators. An example of a BRFSS chronic disease indicator is the prevalence of obesity, which has doubled between 1987 and 2001 (see figure).

We are very fortunate to have some outstanding data systems in Michigan that are routinely used for chronic disease surveillance. In addition to the BRFSS, we now have a fully certified cancer registry, a status which is extremely difficult to achieve. However, there are still significant barriers to chronic disease surveillance that will take time to resolve. Except for cancer registry and BRFSS data, the surveillance of chronic disease often relies on data, such as mortality or hospital discharge data, that are collected for other purposes, and as such these data do not always suit the exact needs of chronic disease surveillance. For example, tracking environmental health hazards and their relation to chronic diseases has proved challenging, as there is often a time lag of a year or more before these data can be used and often

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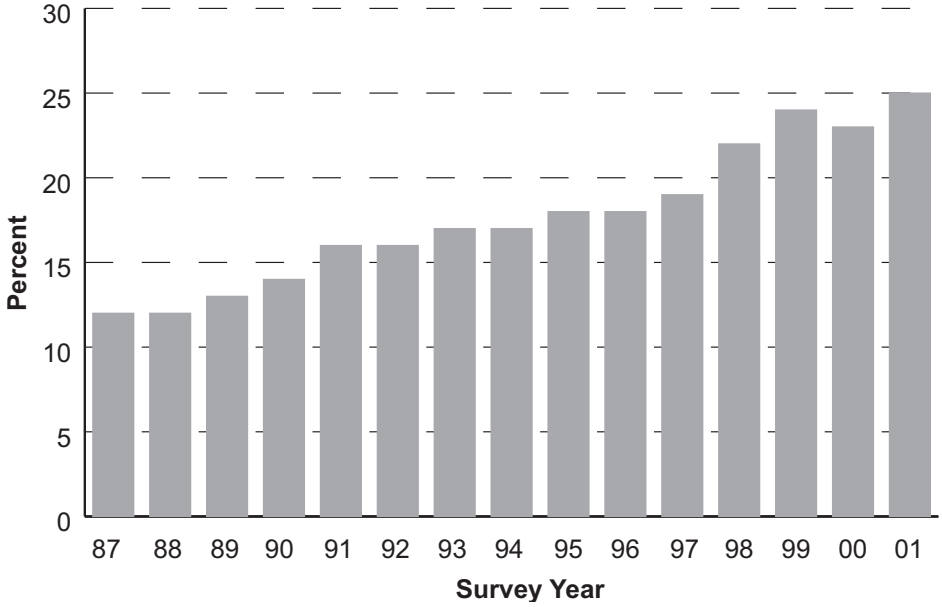
Prevalence of Obesity Among Michigan Adults
MI BRFSS, 1987–2001



2001 estimate is preliminary

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Examples of CSTE Chronic Disease Indicators

1. Mortality from cancer (all sites combined)
2. Sigmoidoscopy/proctoscopy among persons 50+ years of age
3. Mortality from heart disease
4. Blood pressure screening among adults
5. Diabetes prevalence among adults
6. Obesity prevalence among adults
7. Fruit and vegetable consumption among adults
8. Lack of health insurance during the past year
9. Lack of vigorous activity among youth
10. Cigarette smoking among adults (and youth)

not all the necessary data elements are in the database. For rare diseases, such as amyotrophic lateral sclerosis, mortality data are the only data we have to respond to community concerns. For some other diseases, such as asthma and stroke, access to emergency department room data is critical for their surveillance, however, Michigan does not yet have a statewide system to collect those data.

Clearly, the surveillance of chronic disease is in its infancy. There is a marked need to provide more timely and comprehensive data for our current chronic disease indicators. At the same time, there is continuing exploration of new issues. In the future, we could possibly incorporate data on family histories into surveillance to assess the genetic impact on cancer incidence, or we may need to develop indicators of disease severity to help determine the characteristics of disease that produce substantial morbidity and disability, or that affect the quality of life. In addition, new disorders with significant public health impact will also cross our path, e.g., Alzheimer's disease is now one of the ten leading causes of death. For those of us in chronic disease epidemiology, we believe that the development of standard chronic disease indicators has provided us with a good foundation to meet the future.

(1) Lengerich, EJ (ed.). *Indicators for Chronic Disease Surveillance: Consensus of CSTE, ASTCDPD, and CDC.* Atlanta, GA: Council of State and Territorial Epidemiologists, November 1999.

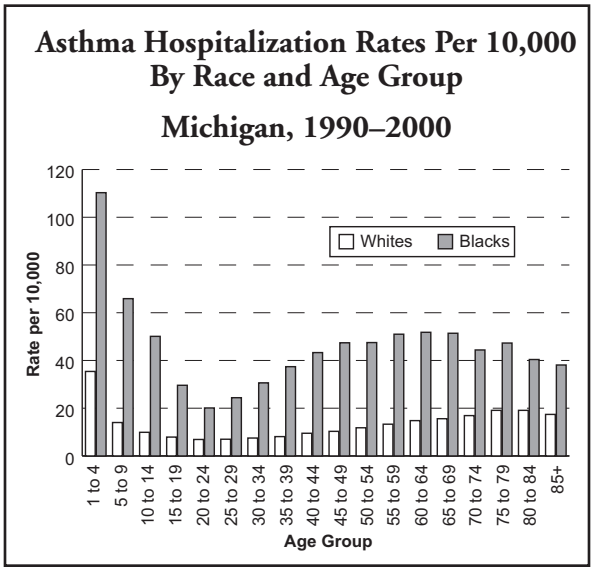
Surveillance Update: Asthma in Michigan

Sarah Lyon-Callo

Asthma is a chronic inflammatory disease of the lungs characterized by wheezing, chest tightness, coughing, and shortness of breath. The interdisciplinary asthma program at the Michigan Department of Community Health (MDCH) addresses this disease through many activities, including asthma surveillance, patient and provider education, local coalition support, and environmental interventions.

Results from asthma surveillance activities indicate that almost 12 percent of Michigan children aged 1-14 years have asthma or reactive airway disease (Pilot Michigan Child Health and Safety Risk Survey, 2001), and over 17 percent of Michigan middle and high school students have asthma (2001 Michigan Youth Tobacco Survey). Among Michigan adults aged 18 years or older, 8.8 percent (±1.0) were estimated to have asthma, with 5.0 percent (±0.7) of adults being diagnosed as adults (preliminary estimates from the 2001 Michigan Behavioral Risk Factor Survey (BRFS)). Among BRFS respondents with asthma, 5.8 percent (±2.3) had been told by a doctor that their disease was work-related.

Although there is no cure for asthma, it can be controlled, allowing people with asthma to lead normal, symptom-free lives. Unfortunately, asthma is not as well controlled as it could be in Michigan. According to the 2000 Michigan BRFS, nearly 12 percent (±5.4) of Michigan 18-64-year-olds with asthma were estimated to have experienced at least one severe asthma attack in the previous 12 months, about 43 percent (±9.6) experienced persistent symptoms, and a startling 53.8 percent (±9.7) had not had any routine care for their asthma in the past 12 months.



Another indicator of asthma control is the rate of asthma hospitalizations. Although most asthma hospitalizations are preventable, there were over 16,000 asthma hospitalizations in Michigan annually between 1990 and 2000. The

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The Lead Hazard Remediation Program: Making a Difference in Michigan

Burt R. Russell

About a million children younger than 6 years of age in the U.S. have blood lead levels of 10 micrograms per deciliter (ug/dL) or greater, levels high enough to adversely affect their intelligence, behavior, and development. Nationally, 4.4 percent of children under 6 years are lead-poisoned and, in Michigan, 5.5 percent of those tested in 2001 (4,771 out of 87,875) were poisoned. But since this testing was conducted on only 11 percent of the state's children, the actual number of children suffering from lead poisoning in Michigan is probably closer to tens of thousands. Although minority and poor children are disproportionately affected, any child living in housing built prior to 1978 is at risk of lead poisoning.

LHRP was authorized by the Lead Abatement Act of 1998 to establish lead identification and abatement procedures; develop certification, accreditation, and training requirements; implement enforcement strategies; and establish a lead poisoning prevention program. This legislation enabled the promulgation of Michigan's lead hazard remediation rules. These rules establish work practices and technical requirements associated with the lead-oriented disciplines of training, abatement, identification, and hazard assessment.

LHRP is responsible for building a base of professionals, beginning with education. Courses are audited for content, hands-on experience, and regulatory requirements; and certification exams are conducted in Lansing. LHRP continues to provide education after the certification process through compliance assistance (consultation) and compliance assurance (enforcement). It also assists the regulated community by offering workshops, regulatory guidance, and technical assistance.

Lead-related work may require technically complex applications and technology or simple construction activities; however, the opportunity to contaminate a home and create more hazards exists in all phases of the work. LHRP assures compliance through enforcement actions and the issuance of citations and fines. LHRP's first objective, however, is to settle cases creatively to the benefit of those involved. For example, a group of risk assessors from various firms recently performed poor risk assessments on a number of inner city houses in Detroit. The resulting settlement included a waiver of all fines and citations by LHRP, and a re-investigation of the houses with additional "gratis" risk assessments performed for the city.

LHRP is also an information portal for the community in general, providing community education, outreach activities, consultations to tenants, landlords and homeowners, and assisting community-based organizations and local health department lead programs. LHRP maintains educational materials and resource documents from the Environmental Protection Agency, the Department of Housing and Urban Development.

Finally, LHRP provides funding and oversight for the abatement of homes across the state. This work is managed on the local level by county health departments, each with a fully trained health official who handles the work from initial hazard assessment through the abatement phase to follow-up after project completion. To date, LHRP has abated about 900 homes in Michigan, reducing exposure to thousands of children.

In March of this year, LHRP was integrated into the Division of Occupational and Environmental Epidemiology, Bureau of Epidemiology, further enhancing the program's capabilities and expertise. This is a significant change for LHRP and we look forward to being a part of this team of professionals in the months to come.

2001 Marks Michigan's First Measles-Free Year

Joel Blostein

No cases of measles were confirmed in Michigan in 2001, the first recorded measles-free year for the state.

Measles is a viral illness characterized by a red, raised generalized body rash lasting 7-10 days. It is preceded by a prodrome of high fever, cough, conjunctivitis, and upper respiratory symptoms. A highly communicable disease, measles historically afflicted virtually every child of every birth cohort, causing an estimated four million cases and 450 deaths each year in the U.S. until childhood vaccination against it became routine.

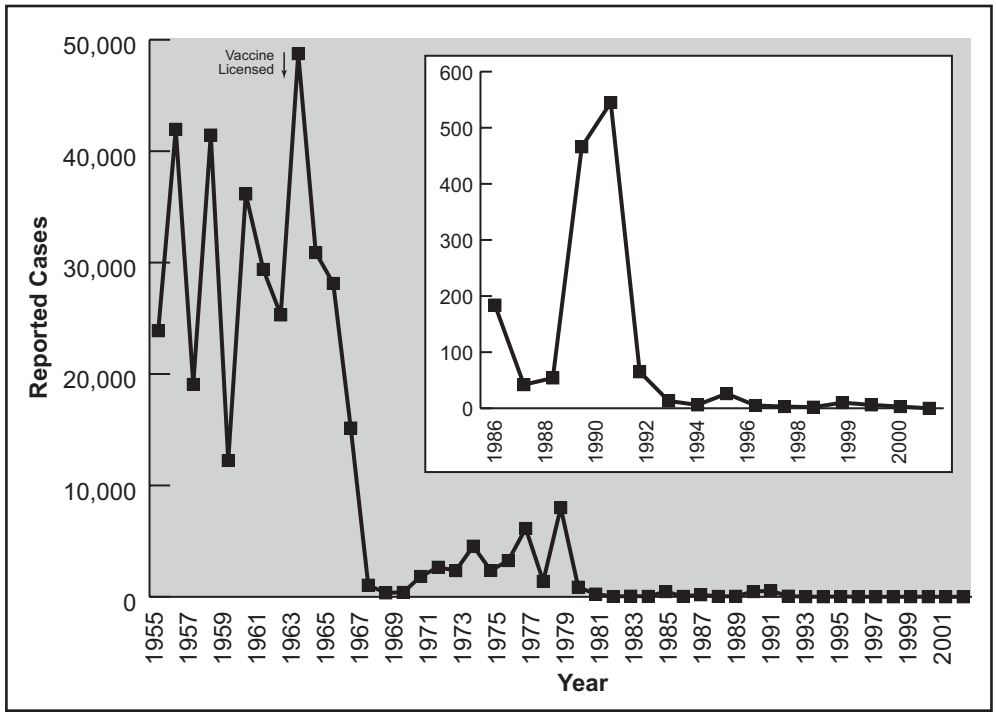
Complications of measles -- such as otitis media, pneumonia, bronchitis, and diarrhea -- frequently require hospitalization of young children. Deaths occur in approximately one-to-two out of every 1,000 cases in the U.S., and much more frequently in developing countries, where poorer underlying health status contributes to the severity of the disease.

Measles control and prevention: successes, failures, lessons learned

Measles vaccine was first licensed for use in this country in 1963. Measles vaccination, like the disease, confers lifelong immunity. Routine measles immunization, along with school entry requirements for measles immunity, resulted in dramatic declines in measles incidence (see Figure 1). A national goal for the elimination of measles in the U.S. was set for 1982, but was not achieved.

A significant resurgence of measles occurred in the U.S. between 1989-1991. Over 55,000 cases (more than 1,000 in Michigan), 11,000 hospitalizations, and 125 deaths were reported. Delays in immunization and failure to immunize children at the recommended age (12 –15 months) were identified as major factors. Studies of outbreaks prior to and during this resurgence yielded an important finding: the need for a second dose, which helps to assure immunity in the small proportion of persons who do not become immune after one dose.

Figure 1. Measles Cases, Michigan, 1955-2001



Because measles is highly contagious, even a small number of non-responders to a first dose can, over time, result in enough susceptible persons to sustain an outbreak. Improved efforts to vaccinate infants on schedule at 12-15 months of age, in conjunction with adding a second vaccine dose, are credited with the virtual elimination of the disease in the U.S. in recent years.

Changes in epidemiologic patterns: a shift in age-distribution

Some epidemiologic patterns have changed as the disease has become more rare. Historically, measles incidence was highest among school-aged children. However, vaccine requirements for school entry resulted in highly immunized cohorts of children. At the same time, some individuals who were never immunized did not obtain immunity from a natural infection either, because of the markedly declining disease incidence. Ironically, although measles has been traditionally regarded as a childhood infection, the result of these changing patterns has been that an increasing proportion of cases is occurring among adults (see Figure 2).

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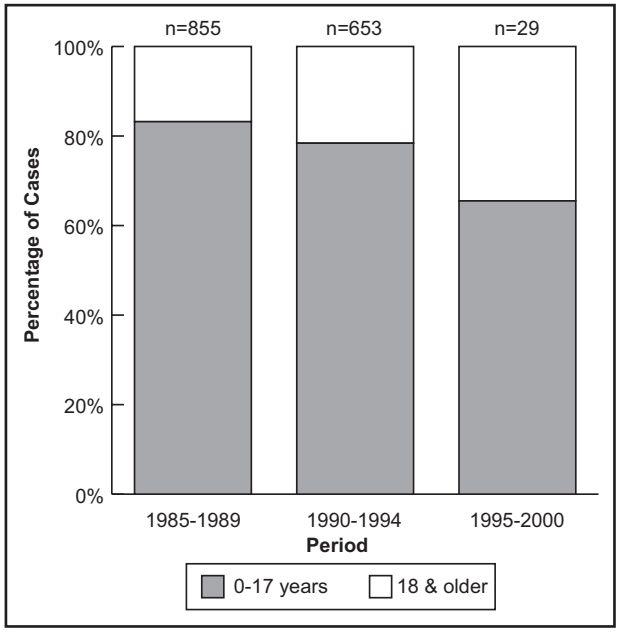
Figure 2. Michigan Measles Cases by Age Group, 1985-2000



"2001 Marks Michigan's First Measles-Free Year" continued from page 4

The measles picture today: interrupted virus circulation, importation, elimination

While measles virus no longer circulates continuously in the U.S., it does continue to appear periodically, the result of importations from infected travelers. Measles remains a disease of extremely high incidence elsewhere in the world. Millions of cases still occur, and the World Health Organization estimates that worldwide there are over 900,000 measles-related deaths annually. Until global eradication is achieved, preventing importations of measles altogether into the U.S. is not likely to be possible.

The key to success in sustaining measles elimination status in the U.S., and eventual worldwide eradication, lies in achieving and maintaining high levels of population immunity, so that when measles virus is imported, it will not be able to spread and result in secondary cases

Newborn Screening and Hereditary Disorders Programs

Bill Young and Corinne Miller

The Newborn Screening Program currently screens infants for seven disorders: phenylketonuria (PKU), galactosemia, hypothyroidism, maple syrup urine disease (MSUD), biotinidase deficiency, sickle cell anemia, and congenital adrenal hyperplasia. The possibility of adding tests for expanded metabolic screening, including tests for homocystinuria and medium-chain acyl-CoA dehydrogenase (MCAD) deficiency, is currently being explored. Heelstick blood specimens are routinely submitted by hospitals to the centralized state laboratory, which tested 132,092 initial and 9,602 repeat specimens in 2001. Results are reported to program staff for follow-up and referral. MDCH contracts with three medical centers to assure and/or provide comprehensive diagnostic and treatment services. More than 200 infants are identified with one of these disorders each year.

The Hereditary Disorders Program maintains contractual agreements with a network of six regional genetic centers to provide genetic diagnostic and counseling services, as well as outreach education. During fiscal year 2000-2001, 47 outreach clinics were held in ten geographic locations, and more than 2,300 families received genetic evaluation and counseling services at the center-based sites. In conjunction with the Michigan birth defects registry, the Hereditary Disorders Program also participates in a cooperative agreement with CDC for birth defects surveillance and the utilization of data for prevention- and intervention-related public health programs. As part of this effort, folic acid education for the prevention of neural tube defects will be expanded to target specific populations based on analysis of data from the Pregnancy Risk Assessment Monitoring System, the birth defects registry, as well as other data sets. The Hereditary Disorders Program has recently completed a statewide needs assessment and draft state genetics plan as part of a Heath Resources and Services Administration planning grant for infrastructure development. Over the next three to five years, MDCH will use this plan as a blueprint for guiding program activities with an increased emphasis on the role of genetics.

The Newborn Screening and Hereditary Disorders Programs are now located in the Division of Epidemiology Services and are managed by two professional staff (Bill Young and Janice Bach) with two support staff. Professional staff consists of two public health consultants, one of whom directs the Newborn Screening Follow-up Program and the other who serves as the state genetics coordinator. In addition, the programs contract with nursing and genetics professionals for projects related to birth defects, newborn screening, and adult genetics.

Conferences

Michigan Cancer Consortium Annual Meeting

September 13, 2002

Sheraton Inn in Ann Arbor

For additional information contact Diane Drago at 517-663-5147 or DMSdiane@concentric.net.

North Central States Epidemiology Conference

October 3-4, 2002

5th floor of the Old State of Illinois Building

160 North LaSalle, Chicago, Illinois

For additional information contact Mark Dworkin at MDWORKIN@idph.state.il.us.

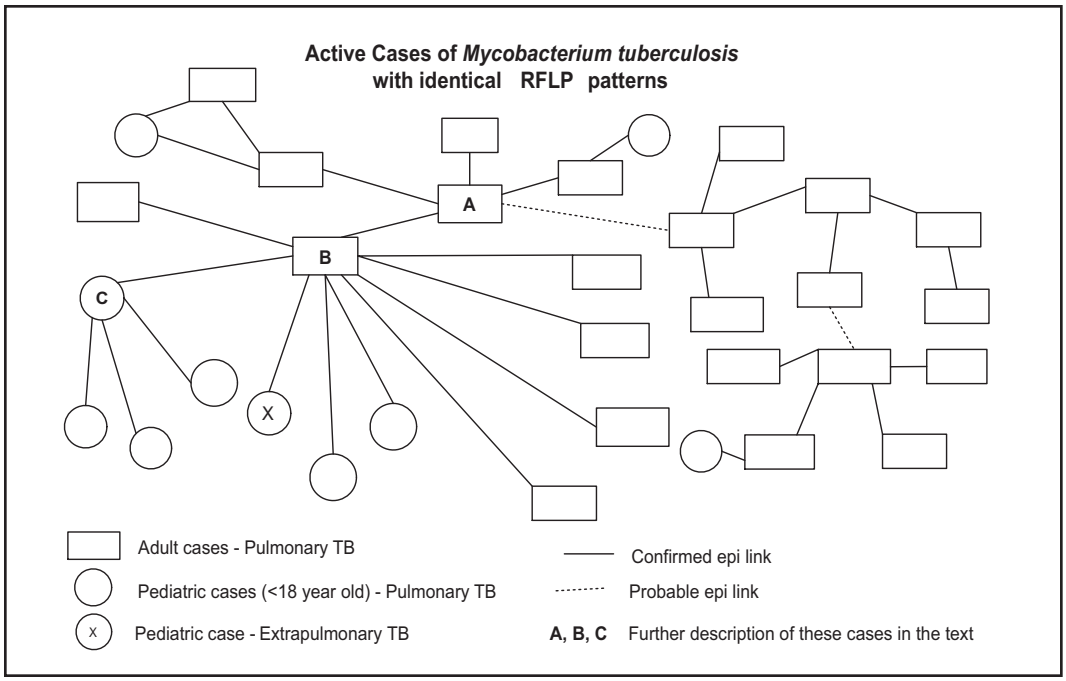
Eliminating Tuberculosis: The Michigan Experience

JoLynn Pratt Montgomery

Many efforts have been made to reduce the burden of tuberculosis (TB) around the world. In the U.S. between 1992-1999, there has been a 34 percent decrease in incidence of active TB. Successful efforts in the U.S. to decrease the incidence of disease from Mycobacterium tuberculosis, the bacteria that causes TB, make identification of case-patients increasingly difficult, and persons with active disease may go undiagnosed as TB becomes increasingly more rare. Early identification of cases and thorough contact follow-up is vital to preventing the spread of disease.

Restriction fragment length polymorphism (RFLP) is a useful tool to identify undetected epidemiologic links and confirm links identified through traditional outbreak investigations. In Michigan, RFLP testing was conducted on all M. tuberculosis isolates between 1996-2000 and is currently performed on select isolates. The MDCH laboratory is a regional laboratory and performs RFLP for other states as needed. This allows linkages to be made between in-state and out of state cases. MDCH and the local health departments (LHD) investigated an outbreak of TB in Michigan (described below) using both RFLP and traditional epidemiologic methodologies. RFLP testing identified several cases from Indiana that could be linked to the outbreak.

In 1995, a 44-year-old male (Person A) was diagnosed with pulmonary TB. One contact, a 22-year-old male (Person B) could not be located. Two years later, Person B presented with respiratory symptoms in a correctional facility. He was diagnosed with pneumonia. Repeated medical examinations did not yield a diagnosis of TB. After four months of incarceration, he was released and presented to a local health care facility with persistent respiratory symptoms. Again he was diagnosed with pneumonia. Four months later he returned to the health facility because the symptoms had not abated and was diagnosed at that time with TB. RFLP analysis showed that Person B had the same pattern of M. tuberculosis as Person A. It was then discovered that he had used an alias, which prevented the discovery of his whereabouts during the initial investigation.



An investigation of the close contacts of Person B revealed many case-patients infected with M. tuberculosis. Three of the four men who shared a jail cell with Person B were diagnosed with active disease, and the fourth cellmate had a positive TB skin test. RFLP analysis revealed that a 43-year-old male who shared a holding cell with Person B for thirty minutes also was infected with M. tuberculosis that matched that of Person B. Following his release, Person B babysat for the children of three friends. The investigation revealed active disease in two of these children, and latent TB in six of the children and one of the mothers.

In December 2001, a 15-year-old male (Person C) was diagnosed with active TB. Three young children with whom he had contact were also diagnosed with active TB. Person C had had previous contact with Person B but had not been identified during previous investigations.

Only one case in this cluster was known to be HIV-infected and all cases had pan-sensitive strains of TB. As of January 2002, there were 36 case-patients with active TB (three of whom were socially linked to the others) and at least 50 cases of latent TB associated with this outbreak. It is estimated that outbreaks of this magnitude take approximately 50 years to resolve.

In response to problems identified during this outbreak the following actions have been taken:

- A new contact investigation form has been developed for use by local health departments (LHD).
- A contact investigation course has been developed for LHD nurses and outreach workers.
- Nurses are available to assist with education and training of LHD staff and health care providers.
- The correctional institutions involved have implemented skin testing for all inmates who are at the facility for >10 days.

Summary of Multidrug-Resistant *Salmonella* Newport Michigan, 2001-Present

Sally A. Bidol

The recent emergence of multidrug-resistant (MDR) *Salmonella* Newport has been recognized in several parts of the U.S., particularly the northeast and midwest. According to the Centers for Disease Control and Prevention (CDC), an upward trend in the overall number of S. Newport infections in this country appears to be associated with rapid dissemination of highly drug-resistant strains of this bacterium. Moreover, these strains are associated with higher hospitalization rates and mortality.

In Michigan, three clusters of MDR *Salmonella* Newport, or MDR Newport, in humans have been identified over the past 18 months (January 2001-present). Each of the clusters displayed a different pulsed field gel electrophoresis (PFGE) pattern. These clusters are listed below along with a map showing their geographic distribution. Two of the clusters were associated with exposure to dairy farms or ill hoofstock; the other cluster was associated with eating ground beef. These findings are consistent with national data that suggest dairy cattle as an apparent source for human MDR Newport infections.

Cluster A: August - September 2001

Four human cases of MDR Newport with indistinguishable PFGE patterns were identified in the central region of Michigan. Three of the four cases reported direct or indirect exposure to nearby dairy farms: one of the case-patients was a young male who performed farm chores, and another was a newborn whose mother drank raw milk. This PFGE pattern was previously seen in bovine isolates from one of the implicated farms as well as from another close-by farm.

Cluster B: July - November 2001

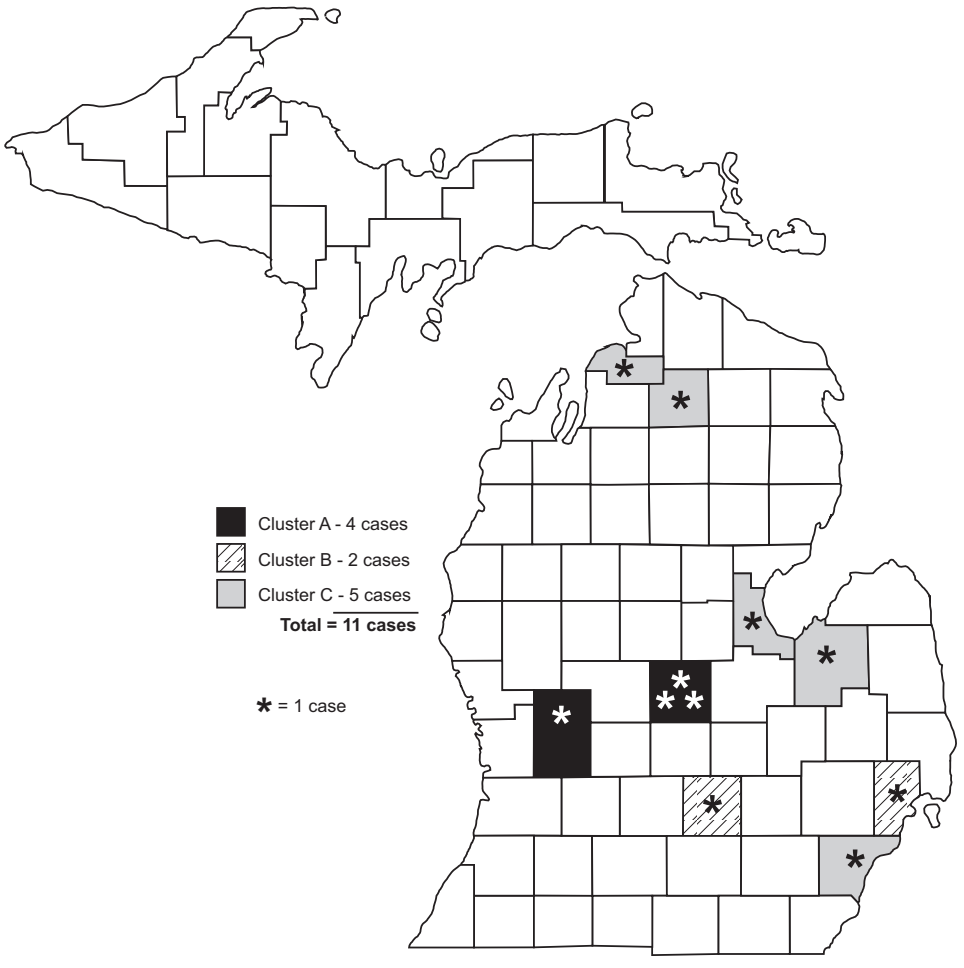
Two human isolates of MDR Newport were identified with a PFGE pattern that matched MDR Newport isolates cultured from hoofstock at a university-affiliated animal health clinic in Michigan during the same time frame. One of the human cases was an animal handler at the facility.

Cluster C: February - March 2002

Five Michigan case-patients were part of a multi-state outbreak of MDR Newport during the first quarter of 2002. A case-control study implicated exposure to raw or undercooked ground beef as the source. This outbreak was the first to link consumption of ground beef with MDR Newport infection. Further details on this investigation can be found in the June 28, 2002 issue of the *Morbidity and Mortality Weekly Report* (*MMWR* 2002; 51:545-548).

These experiences underscore the importance of investigating all apparent increases of *Salmonella* Newport to determine whether there may be an outbreak and to perform susceptibility testing of isolates. Epidemiologic questionnaires for *Salmonella* infection should also include animal and farm exposures along with foodborne routes of transmission.

MDR *Salmonella* Newport Outbreak-Related Cases 2001-present



The Pilot Michigan Child Health and Safety Risk Survey, 2001

Jianli Kan, Larry Hembroff, Bao-Ping Zhu

While there are sources of data on the health status of adults (e.g., the Behavioral Risk Factor Survey), youths aged 15-18 years (e.g., the Youth Risk Behavior Survey), and infants under one year of age (e.g., the vital statistics data base), there is growing concern over the lack of current data on the health status of Michigan children aged 1-14 years. This information is necessary for directing policy and program development, monitoring program outcomes, and providing more accurate performance measures for state maternal and child health programs.

In an attempt to fill this data need, a pilot random-digit-dialed telephone survey, dubbed the Pilot Michigan Child Health and Safety Risk Survey, was conducted by the Office for Survey Research, a division of the Institute for Public Policy and Social Research at Michigan State University. The purpose of this pilot survey was to explore the feasibility of, and to develop an instrument for, a full-scale survey. In addition, the pilot survey sought to calculate the sample sizes needed for making statistically stable estimates for certain health conditions and health risk behaviors.

A total of 522 households with at least one child aged 1-14 years were recruited by telephone from December 2000 to May 2001. An adult in each of these households was interviewed about the children in their households. The information collected about these children included special health care needs, chronic health conditions, health status, health care access, dental care, intentional and unintentional injury, poisoning, helmet use, seatbelt use, availability and storage of firearms in the home, lifestyle risks, and family violence.

There were 923 children aged 1-14 years living in these 522 households. Using the data collected about these children and weighting them to be representative of the state population, it was estimated that 26.8 percent of all children aged 1-14 years in Michigan have a chronic health condition or have special health care needs, and an estimated 35.3 percent of all Michigan households have at least one such child. Based on these data, it was estimated that there are 422,914 children with special health care needs in Michigan and they come from 315,200 households.

A focal child from each household was selected during the interview and the respondent was asked for more detailed health information about this focal child. From these data it was estimated that 12.6 percent of Michigan children had asthma or reactive airway diseases, 6.3 percent had other breathing problems, 9.6 percent had various forms of mental, cognitive, or learning disabilities, and 2.4 percent had congenital anomalies. In addition, it was estimated that 14.3 percent of Michigan children had suffered an injury in the previous 12 months which limited his or her activities for at least one day or required medical attention. In other words, an estimated 290,361 Michigan children aged 1-14 years were injured in the past year.

Bureau of Epidemiology Launches "Calendar of Events" Web Page

The Bureau of Epidemiology has created a new web page to promote conferences, trainings, and meetings among local public health and health care providers in Michigan. The website can be reached through the "Communicable and Chronic Diseases" and the "Toxic Substances" sections under the "Providers" category at www.michigan.gov/mdch. The page contains a listing of events by month as well as links to any additional information on the particular event.

If you have an event you would like to have added to the site please contact Brad Carlson (Carlsonbr@michigan.gov) in the Bureau of Epidemiology.

Awards

Bao-Ping Zhu is a recipient of the Michigan Council for Maternal and Child Health Golden Links Award and received this award on June 6, 2002 for his work on infant mortality prevention and his significant impact on the future and well-being of mothers and babies in Michigan.

Harry McGee recently received an award from the Centers for Disease Control and Prevention in appreciation for his valuable contributions to the Behavioral Risk Factor Surveillance System Strategic Meeting held on May 23-24, 2002.

Rebecca Malouin has been selected to be a member of the fall 2002 class of TRECOS fellows at the Michigan State University, Department of Epidemiology. TRECOS, an acronym for Training Clinical Researchers in Community Settings, is a two-year program funded by a NIH K-30 award with the purpose of training individuals with doctoral degrees to become independent investigators able to conduct clinical research in community settings. As part of the TRECOS fellowship, Malouin will complete a certificate in clinical epidemiology.

Kirpal S. Sidhu has received a Certificate of Appreciation from the National Environmental Health Association (NEHA) for his contributions to the NEHA's 66th Annual Educational Conference and Exhibition held at Minneapolis, MN on June 30- July 3, 2002. He made a presentation titled, "Potential Health Risks Associated with Exposure to Molds in Indoor Environments."

Employee Focus: Glenn Copeland

Glenn Copeland joined the then Michigan Department of Public Health as a statistician in 1973, shortly after completing an M.B.A. in quantitative methods at Ohio University. He first worked in the health accounts area providing statistical support for health care planning. Copeland then moved to vital statistics, initially preparing vital statistics data files and annual reports. However, his responsibilities quickly expanded to encompass all of the front-end issues related to the collection of vital records data, data base development, development and maintenance of the cancer and birth defects registries, and the collection of health facilities data related to the Certificate of Need (CON) program.

Currently, Copeland manages the Vital Records and Health Data Development Section, which recently moved into the Bureau of Epidemiology, Division of Epidemiology Services. A major accomplishment for Copeland and his staff was the recent certification of the Michigan cancer registry by the North American Association of Central Cancer Registries.

Copeland has been instrumental in the transition process to the electronic reporting of vital records data. The Electronic Birth Certificate (EBC) system is being used successfully in Michigan to facilitate the electronic collection of birth certificate information and has significantly reduced the reporting burden for hospitals. The EBC also allows for the collection of additional information and this flexibility has enabled hospitals to comply more easily with the requirement to let unwed parents acknowledge paternity at birth.

Copeland also works with epidemiologists on investigations into reported clusters of cancers and birth defects. These investigations often require the use of both mortality data and registry data. The ability to investigate concerns about possible clusters was one of the primary reasons for the establishment of the Michigan cancer and birth defects registries.

In addition to these areas of responsibility, Copeland works with researchers in many health-related fields, facilitating their research projects and providing them with data. Examples of research projects with which he has current involvement include the use of birth data to investigate possible long term consequences to children of women in cohorts of childhood cancer survivors and breast cancer survivors. Another project is examining registry data for birth defects among children of HIV-infected persons using prophylactic treatments.

As part of Copeland's role in facilitating research projects, he works with the Scientific Advisory Panel. As required by state statute, this panel reviews all studies that propose to use potentially identifiable data from the cancer or birth defects registry. Issues of privacy and confidentiality as they relate to the use of data are an interest of Copeland's; he has also served on the MDCH Human Subjects Committee for the past five years. Although these tasks are very time consuming, Copeland feels strongly that research is critical but must be done well, that data must be used appropriately, and that Michigan vital records data and registry data offer an unique opportunity to many researchers.

Despite his eligibility for the recent early retirement package, Copeland plans to continue his very valuable work at MDCH. In addition to enjoying his work tremendously, Copeland has been married for 34 years and has two sons, one of whom has graduated from MSU and the other is a junior there. He also enjoys gardening and boating in his 1968 wooden Thompson Run-About.

New Vital Records Documents Being Developed

Glenn Copeland and Corinne Miller

The National Center for Health Statistics within CDC has released newly-revised model vital records documents for the reporting of live births, fetal deaths, and deaths. These revised model forms will replace the current nationally recommended certificates that came into use in Michigan in 1989.

Many staff in the Bureau of Epidemiology use birth and death records for surveillance and special studies, and changes in these records will clearly impact our work. Michigan has geared up to develop new vital records documents for use beginning in 2004. The Michigan forms will be patterned closely after the new national models. A collaborative process is underway to review the new model forms and to devise forms that will best suit the needs in Michigan. It is in Michigan's interest to closely follow the national model documents to ensure data comparability and the usefulness of these certificates as legal documents. However, there is still a need to make sure that information required specifically in Michigan is available, although it may not be collected nationally. For example, having Arab-American available as an ethnic classification is important in Michigan, but it may not be captured by the national model. An advisory panel has been formed that will be comprised of representatives from key Michigan associations whose members complete, process, or utilize these important records.

If you would like to learn more about the new national model forms or about the deliberative process that was followed in developing them, you will find a considerable amount of information on the web site for the National Center for Health Statistics at www.cdc.gov/nchs/vital certs rev.htm.

MDCH Launches Viral Meningitis Sentinel Surveillance System

Mark Schmidt

Viral meningitis is a relatively common, although rarely serious, disease. From 1993 through 2000, on average, 785 cases of viral meningitis were reported annually to local health departments in Michigan. Incidence of viral meningitis in Michigan typically peaks in the late summer and early fall, and analysis has shown that the number of cases reported per year is cyclic, with larger numbers of cases occurring approximately every three years. The mean age of cases reported between 1993-2000 was 22.15 years, and the sex ratio was approximately equal. The geographic distribution of cases shows that the highest incidence over this time period occurred in the heavily populated area of southeastern Michigan.

Early in 2001, MDCH began to notice a higher than expected level of viral meningitis being reported to local health departments. This early increase burgeoned into the largest viral meningitis year in recent history, with a total of 2,558 cases reported statewide. Higher than normal numbers of viral meningitis cases were also seen nationwide. The sex ratio was still about equal in 2001, but this increase in cases was seen primarily among younger individuals (mean age 18.62 years), and the highest incidence was in the western and central regions of Michigan.

Viral meningitis is typically caused by enterovirus infection, including strains of both echoviruses and coxsackieviruses. Laboratory identification of clinical samples seems to indicate that the high number of viral meningitis cases reported in 2001, both state and nationwide, was caused by an outbreak of Echovirus Type 13. This strain of virus has not previously been known to have caused an outbreak (1). Unfortunately, samples tested at the MDCH laboratory in Lansing were not representative of the disease pattern statewide, so an accurate characterization of the epidemic could not be completed.

In May 2002, MDCH began to better characterize viral meningitis within the state. This effort includes a laboratory sentinel surveillance system, through which the MDCH laboratory receives samples for enterovirus identification from specific clinical laboratories, geographically distributed throughout the state. Results will be combined with epidemiological data on reported cases of viral meningitis to obtain a better picture of the disease burden. This system is analogous to the influenza surveillance system in operation from October through May. Regularly updated viral meningitis information may be accessed at www.michigan.gov/mdch and may be found by clicking "Lab Services" under the "Providers" tab on the main page.

1. CDC. Echovirus Type 13 – United States, 2001. *MMWR* 2001;50:777-780.

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age-adjusted asthma hospitalization rate for Michigan during this time period was 17.0 per 10,000 people (Michigan In-Patient Discharge Data). The variation in rates by age, race, and sex in Michigan was similar to national rates.

- Rates were highest in preschool-aged children. Rates decreased with age until the early 20s and then increased again in adulthood. (See figure.)
- Blacks experienced significantly higher rates than whites in all age groups. (See figure.)
- Boys had higher rates than girls, while women had higher rates than men.

For more information about asthma activities at MDCH, contact the Epidemiology Services Division at 517-335-9080. For more information about asthma in general, visit the Michigan Asthma Communication Network at www.GetAsthmaHelp.org, or call 1-866-EZ LUNGS (1-866-395-8647).

New Michigan Asthma Website!

The Asthma Initiative of Michigan has launched its new website at www.GetAsthmaHelp.org and its toll-free asthma information line (1-866-EZ LUNGS). The website features useful, state-of-the-art information on asthma diagnosis, treatment, and control strategies for parents, kids, seniors, health care professionals, schools, and employers. Check this website to find out what's new in asthma management and education, and discover asthma events and organizations in your area.

New Employees

Kyle Enger, M.P.H., has joined the Communicable Disease and Immunization Division as a vaccine preventable disease epidemiologist, and will be coordinating the sentinel surveillance program for influenza. Enger is also charged with analysis of data from the Michigan Childhood Immunization Registry (MCIR). He received his bachelor's degrees in microbiology and zoology from Michigan State University and subsequently served as a health/sanitation volunteer in Morocco with the Peace Corps. Recently Enger completed his M.P.H. in epidemiology and international health at the University of Michigan.

Susan Bohm, has joined the Epidemiology Services Division to work on data analysis for the Michigan Behavioral Risk Factor Surveillance System. Bohm will be working half-time this summer and full time starting this fall. She is currently completing a master's degree in epidemiology at Michigan State University. Prior to her graduate work, Bohm was the manager of the Journals Program for the National Research Council, Canada Institute for Scientific and Technical Information.

Katherine (Katie) Berger, M.P.H., recently joined the maternal and child health (MCH) epidemiology team in the Division of Epidemiology Services as an MCH epidemiologist. Her primary responsibility is to provide epidemiologic oversight for the Michigan birth defects registry, including evaluating data quality, conducting analyses, and using the birth defects data to improve the services provided to children with special health care needs. Berger graduated in May 2000 from the Whitman College in Walla Walla, Washington, with a B.A. in biology and chemistry; in May 2002 she completed an M.P.H. in epidemiology at Emory University School of Public Health. Her past experiences include work in the areas of lead poisoning, teen pregnancy, and foster care.

Betsy Wasilevich, M.P.H., is the new asthma epidemiologist/analyst in the Division of Epidemiology Services; she will be helping to expand asthma surveillance activities. Wasilevich received her M.P.H. in 2000 from Tulane University School of Public Health and Tropical Medicine and is currently a doctoral candidate in that program. She has worked previously on childhood lead poisoning prevention, in a pilot study of acetaminophen use and liver/kidney toxicity among social drinkers, and a clinical trial comparing adverse effects of a new antimalarial medication.

Emily Murray, M.S., is a summer intern with the maternal and child health epidemiology team in the Division of Epidemiology Services. She will be looking at racial disparities in infant mortality in Michigan. Murray received a bachelor's degree in anthropology from University of Florida in June 2000, and a master's degree in epidemiology from Michigan State University. Her previous experiences include work on an intervention trial to improve breast cancer screening rates and a study investigating cigarette smoking during pregnancy and attention deficit hyperactivity disorder.

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