

MMEDB News



Michigan Medical Examiner Database
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The MMEDB is a collaborative project administered by the Center for Collaborative Research in Health Outcomes & Policy (CRHOP), a program of the Michigan Public Health Institute (MPHI), and funded by the Michigan Department of Community Health and the Centers for Disease Control and Prevention. The project uses Internet-based software to enhance operations for medical examiner (ME) offices and to provide standardized data for public health surveillance.

MEET THE MMEDB TEAM!



Gerry Polverento is the Team Leader of the MMEDB Initiative and has been with the project for six years. He currently focuses on county recruitment, project administration, funding procurement and Alcestis, the national version of the MMEDB.

Amanda Carpenter has been with the project for over three years. She is a county liaison as well as a county recruiter. She has presented the project at several conferences.

Andrea Cocciolone has been with the project as a county liaison for over three years. Her current duties include data management and analysis as well as producing the new quarterly newsletter.

Please welcome Courtney Freed to the team! Courtney has joined the team as a county liaison. Courtney will soon contact the counties with which she will be working.

www.mmedb.com

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UPCOMING EVENTS

American Association of Forensic Scientists (AAFS)
February 21-25, 2005
New Orleans, LA
www.aafs.org

National Association of Medical Examiners (NAME)
October 14-19, 2005
Los Angeles, CA
www.thename.org

Michigan Association of Medical Examiners (MAME) Fall 2005

Please
welcome Marquette
County as the
newest participant in
the MMEDB!!!

RESULTS OF THE MMEDB SURVEY

A brief survey was distributed to attendees at the 2004 MAME Conference and was available on the MMEDB website for several months. The purpose of the survey was to collect feedback on the new version of the Death Scene Investigation Report (DSIR), online application, Initiative efforts, and ME office policies. Comments and feedback are presented below. This information is being reviewed by MMEDB staff and will be used to improve the DSIR and online application.

Twenty-two surveys were completed and returned. Survey respondents included: seven medical examiners, four office managers, seven scene investigators, and four support staff. All but one of the respondents were from counties that are currently participating in the Initiative; 13 of these counties have participated for longer than three years.

Data Entry - In the responding counties, the majority (79%) of data entry is completed by an office assistant or scene investigator. In a few counties, the medical examiner enters the data. Frequency of data entry ranged from daily (3 respondents), weekly (5 respondents), monthly (5 respondents), to quarterly (3 respondents). Six respondents did not answer this question.

DSIR - In Fall 2003, the format and content of the Death Scene Investigation Report was revised. Sixty-two percent of respondents reported that they prefer the revised DSIR, while 24% of respondents do not. Fourteen percent of respondents stated they had little or no preference for the layout and content of either DSIR. Sixty-seven percent of respondents reported being generally to very satisfied with the new DSIR, while 33% stated they were somewhat to very dissatisfied with the

new DSIR. Suggestions to improve the DSIR were to enhance the medical history section and to add additional space for comments.

Thanks to those who completed the survey - your feedback enables us to continue improving the ME Database!

A survey to evaluate the ease of use of the online application and data entry will soon be available online. Persons who perform data entry for offices are encouraged to complete this

SUDDEN INFANT DEATH SYNDROME TIED TO SEROTONIN

By Aaron J. Sender DISCOVER Vol. 26 No. 01 | January 2005 | Biology & Medicine

A study released in July dispelled some of the mystery surrounding sudden infant death syndrome, or SIDS, which kills 2,500 babies a year in the United States.

Jan-Marino Ramirez, a biologist at the University of Chicago, figured out how two aspects of SIDS fit together. First, a child who has the syndrome cannot gasp air. Thus,

if a pillow blocks her airway and her brain begins to starve for oxygen, she can't kick-start her breathing back to normal. Second, in a SIDS child, the neurotransmitter called serotonin often doesn't bind properly to brain cells. In experiments with laboratory mice, Ramirez and his colleagues distinguished two groups of pacemaker neurons that govern breathing. One group regulates normal breathing; the other group regulates gasping. They found that serotonin regulates the sodium channels that drive the gasping cells. Moreover, problems in sodium channels play a role in epilepsy and heart disorders—both common in children with SIDS. “So we have the missing link,” says Ramirez. “A disturbed serotonin mechanism could lead to disturbed gasping.”

Knowing which cells initiate gasping is just a start. “Now you can ask questions like, What happens if a mother smokes? Does this affect these nerve cells?” says Ramirez. In the meantime, advising parents to put babies to sleep on their backs has proved preventive. Since the “Back to Sleep” public health campaign began in the mid-1990s, the number of annual SIDS deaths in the United States has dropped by 40 percent.

MMEDB ADDRESSES BIOTERRORISM

The Fall 2004 issue of the MAME Cross Section featured an article called **Medical examiners and terrorism threats**. The article summarized a report published in The Centers for Disease Control Morbidity and Mortality Weekly Report titled “**Medical Examiners, Coroners, And Biological Terrorism; A Guidebook For Surveillance And Case Management**” (MMWR 2004:53 (no. RR-8)). The report listed syndromes to aid in the recognition of infectious agents during autopsy. The syndromes listed were based on an abstract presented at the National Association of Medical Examiners Annual Meeting in October 2001. (Nolte KB, Durka GR, Nashelsky MB, et al. Medical examiner surveillance for bioterrorism mortality [Abstract]. Presented at the National Association of Medical Examiners Annual Meeting, October 2001 Richmond, Virginia; 39–40.) The recent redesign of the ME Database included the incorporation of a similar list of syndromes based on the above mentioned abstract. The list of syndromes was added to the autopsy section, and a list of symptoms related to the syndromes was added to the medical history section of both the DSIR and the online application.

Additionally, ‘infectious disease’ was added as a new option for completing the ‘means of death’ sections of the DSIR and the online system. The ME Database will automatically inform the person entering the data if the infectious disease entered is required by the State of Michigan to be reported to local health departments, and the timeframe in which it must be reported. The system will automatically generate a faxable report, which can be printed and faxed to the appropriate health department.

FATAL TRAUMATIC BRAIN INJURY IN MICHIGAN

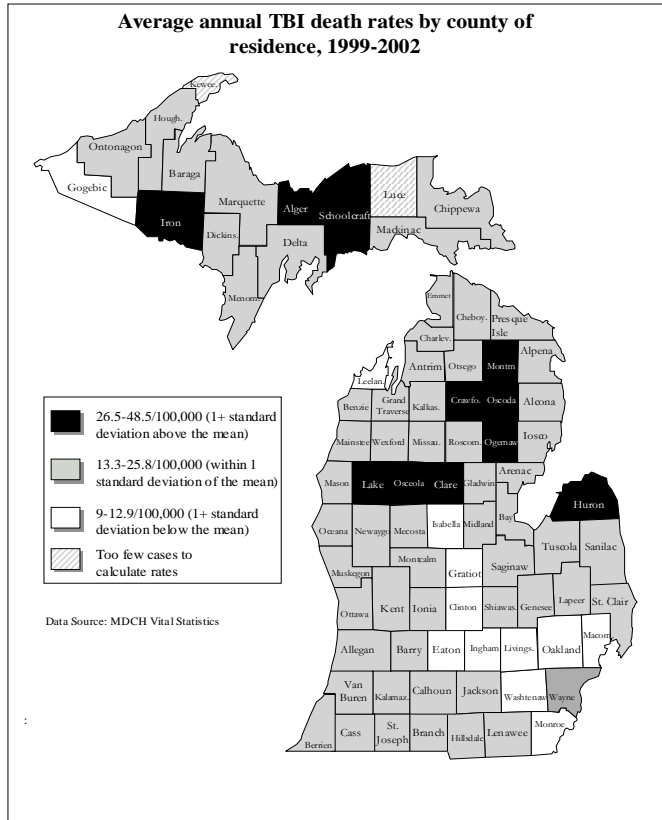
The CDC estimates that approximately 1.5 million Americans are involved in motor vehicle crashes, falls, sports and recreation-related activities, and intentional violence incidents that result in a Traumatic Brain Injury (TBI) each year. Nationwide, more than 50,000 people die annually due to TBI, representing more than one-third of all injury-related deaths.

Mortality data from January 1, 1999 to December 31, 2002 from the MDCH Division of Vital Records and Health Statistics were analyzed. These mortality data were gathered based on information obtained from death certificates, including the cause(s) of death recorded on the death certificate by the attending physician or medical examiner. Cases were included in analyses when a diagnosis indicating TBI was included in the conditions contributing to death.

Between 1999–2002, an average of 1,566 TBI deaths occurred annually in Michigan. Every year, nearly 16 of every 100,000 people in Michigan experience a TBI resulting in death.

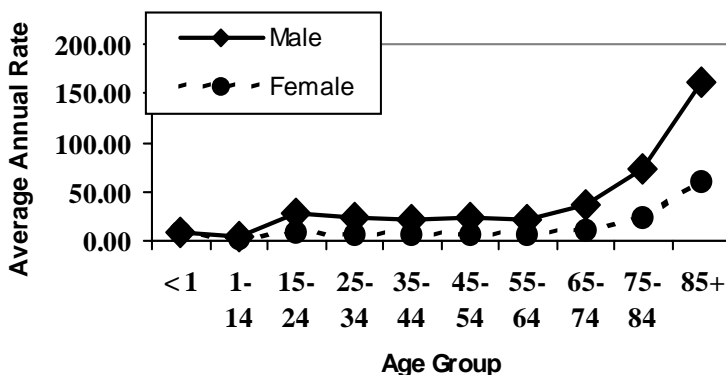
The map of Michigan shows average annual TBI death rates during 1999-2002 by county of residence. Note that the county of residence may be different from the county where the injury occurred and where the individual died.

Counties shaded in black have death rates one or more standard deviations above the average TBI death rate across counties. Lake, Schoolcraft, and Oscoda Counties, in particular have very high TBI death rates: (48.5, 39.5, and 37.1, respectively). Counties with the lowest death rates are clustered in Southeast (excluding Wayne County) and Mid Michigan. Luce and Keweenaw Counties had fewer than 5 deaths during the four years analyzed, therefore rates are not calculated.

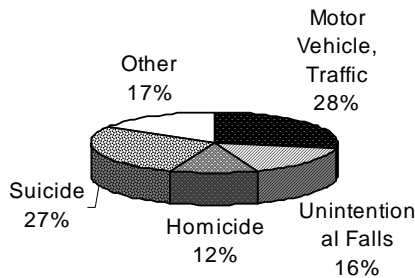


The figure below presents death rates for TBI by sex and age. TBI death rates for TBI can be considered an indication of the relative risk for TBI faced by each demographic group. Starting with the age group 15-24 years, when the male death rate jumps to over 28/100,000, males are at much greater risk for TBI death than females. The TBI death rate for males declines moderately to about 22/100,000 for the age group 55-64 and then increases sharply to more than 36/100,000 for the age group 65-74, 73/100,000 for the age group 75-84, and 161/100,000 for the age group of 85 and above. In contrast, the female TBI death rate remains under 10/100,000 for all age groups until 65-74 and is lower than males for all ages. The data show that elderly people are at much greater risk for TBI-related death than younger people.

Michigan average annual TBI-related death rates by age and sex, 1999-2002



TBI-related deaths by cause, 1999-2002



Cause of injury information for TBI-related deaths is presented in the pie chart. The top four causes of TBI deaths in Michigan are: motor vehicle traffic (28%), suicide (27%), unintentional falls (16%), and homicide (12%).

The leading causes of TBI deaths are presented by age category for males and for females in the tables below. The fonts and shading have been adopted to help the reader identify the various causes and their rankings at a glance. Motor vehicle traffic

crashes were a leading cause of TBI-related death for nearly all age and sex groups. Homicide is the leading cause of fatal TBI among infants of both sexes. The rank of homicide as a cause of TBI then declines as age increases, disappearing from the top three causes of TBI beginning with the age group 45-64. Suicide is a prominent cause of fatal TBI, particularly for males over the age of 15. Elderly males and females are at risk for fatal TBI due to falls and other accidents. To conclude, as identified through analysis of Michigan data, some risk

Rank	Age <1	1-14	15-24	25-44	45-64	65+
1	Homicide (4.43)	Motor vehicle, traffic (2.36)	Motor vehicle, traffic (12.69)	Suicide (9.19)	Suicide (9.57)	Unintentional falls (19.25)
2	Motor vehicle, traffic (2.22)	Homicide (0.68)	Suicide (8.07)	Motor vehicle, traffic (6.71)	Motor vehicle, traffic (4.45)	Suicide (16.28)
3		Suicide (0.37)	Homicide (5.23)	Homicide (3.98)	Unintentional falls (3.17)	Motor vehicle, traffic (6.73)

Source: Michigan Vital Statistics calendar years 1999-2002; rates are per 100,000 people in each age group, averaged over the four years.

Rank	Age <1	1-14	15-24	25-44	45-64	65+
1	Homicide (4.65)	Motor vehicle, traffic (1.66)	Motor vehicle, traffic (5.61)	Motor vehicle, traffic (2.53)	Motor vehicle, traffic (2.33)	Unintentional falls (11.04)
2	Motor vehicle, traffic (1.94)	Homicide (0.33)	Homicide (1.61)	Homicide (1.52)	Suicide (1.36)	Motor vehicle, traffic (3.02)
3		Struck by/against (0.10)	Suicide (0.92)	Suicide (1.15)	Unintentional falls (0.95)	Suicide (0.94)

Source: Michigan Vital Statistics calendar years 1999-2002; rates are per 100,000 people in each age group, averaged over the four years.

factors for TBI include: being male, being an adolescent or young person, and being elderly. These different groups are at risk for TBI for different reasons. Elderly people and young children are both at risk because of the potential for falling; however, falling appears to have more devastating consequences for the elderly. Falls rank below the top

three most common causes of TBI death for children, but they are *the* most common cause of TBI death for the elderly.

The data presented here show that males tend to experience TBI more often than women due to homicide and suicide. Motor vehicle crashes are a leading cause of TBI-related deaths for all sexes and age groups. However, serious car crashes are more likely to involve males – especially between ages 15 and 24 where the TBI death rate due to motor vehicle crashes is 12.7/100,000. The female death rate for the same age category is less than half the male rate at 5.61/100,000. Both female and male infants are at risk of homicide and assault. Assault is the leading cause of TBI-related death in children under one year.

Information for this article was taken from the *Report of the Michigan Department of Community Health TBI Project: Addressing Michigan's Public Health Service Gaps For Persons with Traumatic Brain Injury, Section 2: Profile of TBI in Michigan*. The full report is available online - visit www.michigan.gov and search for TBI.

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