MICHIGAN
DEPARTMENT OF
COMMUNITY
HEALTH

Critical Health Indicators

Michigan CRITICAL health INDICATORS

Health Risk Behaviors

Disease and Disability

Causes of Death

Health Care

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CRITICAL HEALTH INDICATORS REPORT

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Executive Summary

What is the Critical Health Indicators report?

The Critical Health Indicators report paints a compelling portrait of Michigan's health and well-being and establishes a method for monitoring improvement. It is made up of 25 indicators that directly or indirectly measure the health of Michigan residents. The data reported in this document are based on numbers provided by state and federal sources. Links to state resources have been established to assist the reader interested in more detailed information.

Between January 1, 1979 and December 31, 1998, the underlying causes of death were classified in accordance with the Ninth Revision of the International Classification of Diseases (ICD-9), a coding structure developed by the World Health Organization. Starting January 1, 1999, causes of death were classified using the Tenth Revision of the International Classification of Diseases (ICD-10). With each revision there are differences in classifying the underlying cause of death. Therefore, health statistics based on one revision are not directly comparable to the other revision without the use of comparability ratios.

Critical Health Indicators are organized into two interrelated components: focused indicators and vital statistics indicators. Focused indicators are sensitive in the short-term and reflect behavior choices, healthcare access, and quality issues. Data collected on these indicators can serve as benchmarks and measure progress toward improving the state's health.

The vital statistics indicators represent a group of outcomes that vary minimally over the short term, but can provide a framework for describing the health status of the state. These indicators provide information on the leading causes of death and premature mortality. Although death is the most severe outcome of disease or injury, it represents only a fraction of the disease burden for Michigan. Nevertheless, focusing on mortality data helps to identify opportunities for interventions to improve the health of Michigan's residents, particularly where deaths are premature or preventable.

The report examines each indicator, providing 10 years of data when available. Trend data are plotted on graphs to illustrate the annual changes. By considering past trends, state and local health agencies can plan more appropriately for the future. The document also provides a state map for most indicators, ranking each county compared to the state, based on a three-year average rate. This graphic illustration of county ranking serves as a tool, and allows communities and local health agencies to compare their county or counties to others on selected critical health indicators.

Overall, the report supports policymaking and program planning by stressing the importance of using outcome indicators to measure health status improvement.

What does the Critical Health Indicators tell us about Michigan's health?

In general, the health of Michigan's population is improving. Most of the indicators, including: number of abortions, heart disease deaths, cancer deaths, pneumonia and influenza deaths, infant mortality and teen pregnancy, immunization rates, and AIDS deaths have experienced a marked

improvement over the past 10 years. Deaths such as those due to homicides and suicides have also decreased over the years. Similarly deaths due to stroke and chronic liver disease and cirrhosis have shown slight improvement while the prevalence of cigarette smoking and unintentional injury deaths have remained steady over the same time frame.

Relatively few indicators reported showed movement in the wrong direction including chronic lower respiratory disease deaths, diabetes-related deaths, kidney disease death, and the prevalence of overweight/obese adults.

While the overall health of Michigan appears to be improving, there are noticeable racial and gender disparities within many of the indicators reported. Minority populations and males were shown to have an increased risk of death in many of the mortality indicators reported. Chronic lower respiratory disease and suicides indicated that whites had a higher death rate than other minority populations.

For specific indicators reflecting women of childbearing age, the age of the female appeared to be a strong influence on the status of the indicator. Teenage pregnancy rates have steadily decreased over the trend period; however, women under the age of 20 were least likely to receive adequate prenatal care. Furthermore, the rate of death to infants born to teenage mothers was greater than mothers aged 20 and older.

The health of Michigan has shown improvement over the past decade in many areas. However, challenges still exist as an increasing demand for public health services continues to compete within an uncertain financial environment. This document provides information on many state initiatives currently working towards improving of the health of local communities and the State of Michigan. It portrays an opportunity for developing partnerships and collaborating with local and state organizations to achieve the crucial goal of enhancing health status. Working together provides a strong base of support for the continued improvement of Michigan's health.

Last Updated: August 2003.

Michigan Critical Health Indicators
10-Year Trend Direction[1]

Right Direction

Abortions
Adequacy of Prenatal Care
AIDS Deaths[2]
Alcohol-Induced Deaths
Cancer Deaths
Childhood Immunizations
Chronic Liver Disease and Cirrhosis Deaths
Heart Disease Deaths
Homicides
Infant Mortality
Mammography
MIChild and Healthy Kids Enrollment
Pneumonia and Influenza Deaths
Stroke Deaths
Suicides
Teen Pregnancy
Tuberculosis

Wrong Direction

Chronic Lower Respiratory Disease Deaths
Diabetes-Related Deaths
Kidney Disease Deaths
Overweight/Obesity

No Change

Cigarette Smoking
Unintentional Injury Deaths

Trend Data Not Available

Adolescent Use of Alcohol, Tobacco,
& Other Drugs (ATOD)
Chlamydia[3]

Notes:

1. Direction is determined by 10-year trends for the 25 indicators when possible. For some indicators, direction is determined based on other extenuating circumstances, such as limited years of data or data quality.
2. Recent advances in the treatment of HIV/AIDS support a downward trend in deaths despite an increase in the death rate prior to 1996.
3. It is unclear if the increase in reported cases of chlamydia is due to improved testing and reporting or to an increase in the prevalence of chlamydia.

Last Updated: August 2003.

Comparison of Michigan to the United States

For the 24 indicators where Michigan can be compared with the U.S., Michigan is better than the nation on ten and the nation is better than Michigan on ten.

Michigan Is Better	***United States Is Better***
Abortions	Cancer Deaths
Adequacy of Prenatal Care	Kidney Disease Deaths
AIDS Deaths	Homicide Deaths
Childhood Immunizations	Diabetes Deaths (Underlying Cause)
Mammography	Chlamydia
Suicide Deaths	Chronic Liver Disease and Cirrhosis Deaths
Teen Pregnancy	Heart Disease Deaths
Tuberculosis Deaths	Infant Mortality
Unintentional Injury Deaths	Overweight/Obesity
Pneumonia and Influenza Deaths	Cigarette Smoking among Adults

There is no statistically significant difference (with 95 % statistical confidence) between the U.S. rate and the Michigan rate for adolescent use of alcohol, tobacco, and other drugs, alcohol-induced deaths, chronic lower respiratory disease deaths, and stroke deaths.

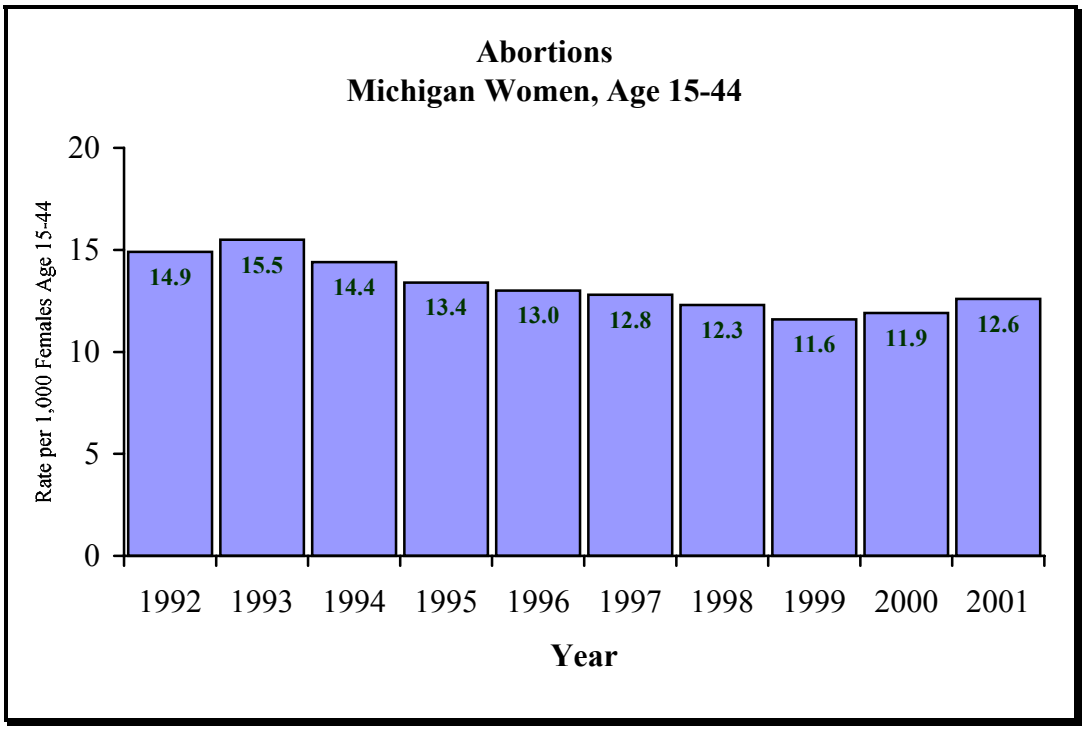
Note: Comparisons between the U.S. and Michigan use the most recent data available for both the nation and the state. Indicators derived from the Behavioral Risk Factor Surveillance System are compared among the median of other states for the latest survey available.

Last Updated: August 2003.

Focused Indicators

Health Risk Behaviors

Abortions



Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Abortion is defined as the purposeful induced termination of a pregnancy. Induced abortions are typically the result of unintended pregnancies, which can be reduced through access to adequate family planning services. Adequate access to family planning services can reduce the incidence of unintended pregnancies and therefore reduce the need for abortion.

There were a total of 27,208 induced abortions among Michigan women in 2001, resulting in a rate of 12.6 per 1,000 women aged 15-44. Abortion rates have declined 15.4 percent since 1992 when the abortion rate was 14.9.

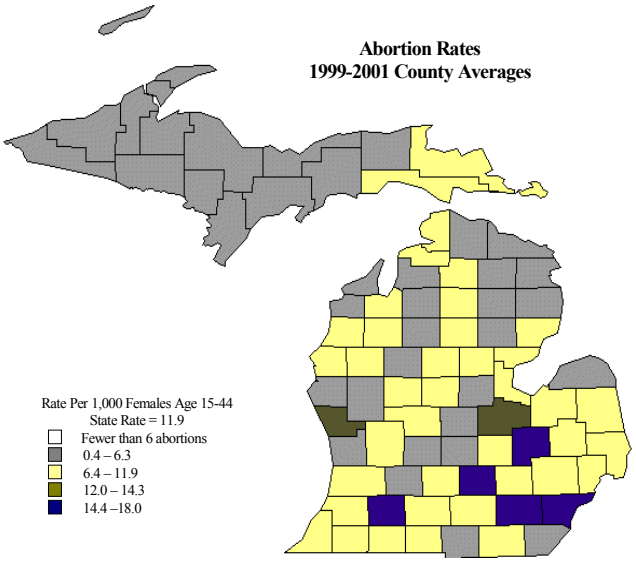
In 2001, 52.4 percent of Michigan women who obtained an induced abortion had no previous induced abortion. In general, a gradual increase has been observed with the proportion of women reporting two or more induced abortions from 17.3 percent in 1992 to 21.1 percent in 2001.

How does Michigan compare with the U.S.?

Typically the Michigan abortion rate has been lower than the U.S. rate. In 1999, the most recent year for which national figures are available, the Michigan induced abortion rate of 11.6 was 32 percent lower than the U.S. rate of 17.0.

How are different populations affected?

Eighty-four percent of induced abortions were to unmarried women in 2001. It should be noted, however, that women of all reproductive ages, married and unmarried, and in all income categories have abortions.



Almost half of all abortions are to Michigan women age 25 and older. The proportion of younger women having abortions has decreased significantly in recent years. In 1990, 58.2 percent of abortions were to Michigan women under 25 years old; this percentage had decreased to 51.8 percent in 2001. Abortions to teenagers account for most of the decline; the proportion of abortions to teenagers decreased from 25.3 percent in 1990 to 18.5 percent in 2001.

What other information is important to know?

Abstinence is the most effective means of avoiding unintended pregnancy. Effective family planning and the avoidance of unintended pregnancy can reduce the number of abortions.

What is the Department of Community Health doing to affect this indicator?

The department is actively working towards abortion prevention through family planning services and efforts of the Michigan Abstinence Partnership and the Michigan Teen Outreach Program. Family planning providers, through contracts with the department, offer contraceptives and reproductive health services to encourage fertility control that promotes the health and well-being of women, children, and families. The strong educational and counseling components of the program help to reduce health risks and promote healthy behaviors. In 2002, services were provided to 179,931 women and 5,449 men through the family planning program.

The Michigan Abstinence Partnership (MAP) Program was developed by the department in 1993. The MAP Program aims to positively impact adolescent health problems by promoting abstinence from sexual activity and related risky behaviors such as the use of alcohol, tobacco,

and other drugs. A comprehensive approach targeting 9-17 year old youth and their parents is used and includes activities that are designed to meet the specific needs of the community. These activities are developed and implemented by local coalitions that are made up of members that reflect the diversity of the community and target population. Each community develops a community action plan detailing coalition-based activities uniquely targeted to the youth and families in their area. In fiscal year 2002, seventeen (17) funded communities provided programming to 43,840 youth and parents.

The Michigan Teen Outreach Program (MTOP) strives to increase the number of adolescents in Michigan who are making positive choices to abstain from risky behaviors, including sexual activity and the use of alcohol, tobacco and other drugs through participation in service learning and abstinence education intervention. Five community organizations are funded through MTOP.

An advisory steering committee is in place in each funded community. Each community is expected to reach a minimum of 300 youth with 55-70 hours of intervention per participant. The Cornerstone Consulting Group's Teen Outreach Program is the service-learning curriculum utilized at all sites. The abstinence-plus portion of this curriculum is replaced with a community selected abstinence-only curriculum in order to meet the definition of abstinence education as outlined in Section 510 of Title V of the Social Security Act and the Michigan Department of Community Health appropriation boilerplate. Parent education is also implemented in order to encourage parents to talk openly with their children about sexuality and the benefits of abstinence.

Last Updated: May 2003

Induced Abortion Rates
by County of Residence, State of Michigan 1999 – 2001

County of Residence	Average Rate
Michigan	11.9
Wayne	18.0
City of Detroit	25.9
Genesee	17.7
Kalamazoo	16.5
Ingham	16.0
Washtenaw	14.3
Saginaw	13.6
Muskegon	13.2
Calhoun	11.7
Mackinac	11.5
St. Clair	11.2
Van Buren	11.2
Berrien	11.2
Jackson	10.8
Kent	10.7
Macomb	10.5
Oakland	9.5
Mason	9.2
Grand Traverse	8.7
Bay	9.1
Roscommon	8.7
Charlevoix	8.6
Isabella	8.6
Emmet	8.5
St. Joseph	8.4
Livingston	7.9
Iosco	8.2
Eaton	7.8
Montcalm	7.7
Lapeer	7.6
Branch	7.5
Mecosta	7.5
Allegan	7.2
Chippewa	7.1
Wexford	7.1
Lake	7.0
Otsego	7.0
Sanilac	7.0
Shiawassee	7.0
Cass	6.8
Gladwin	6.5
Manistee	6.5
Arenac	6.4
Clare	6.4
Lenawee	6.4

County of Residence	Average Rate
Tuscola	6.4
Antrim	6.3
Crawford	6.3
Gratiot	6.3
Leelanau	6.1
Montmorency	6.1
Osceola	6.0
Midland	5.9
Monroe	5.9
Luce	5.8
Oscoda	5.7
Barry	5.7
Ottawa	5.6
Kalkaska	5.6
Huron	5.5
Oceana	5.5
Baraga	5.4
Ionia	5.4
Ogemaw	5.3
Newaygo	5.3
Hillsdale	5.3
Alpena	5.1
Missaukee	5.0
Alcona	5.0
Clinton	4.8
Presque Isle	4.8
Marquette	4.8
Cheboygan	4.7
Benzie	4.7
Alger	3.0
Houghton	2.8
Schoolcraft	2.4
Keweenaw	2.2
Delta	1.9
Iron	1.6
Dickinson	1.0
Ontonagon	1.0
Gogebic	0.5
Menominee	0.4

Note: Unknown county of residence is included in the state total only. The rate is the number of reported induced abortions to Michigan residents per 1,000 Michigan women aged 15-44.

Source: Division for Vital Records and Health Statistics, MDCH.

Last Updated: March 2003

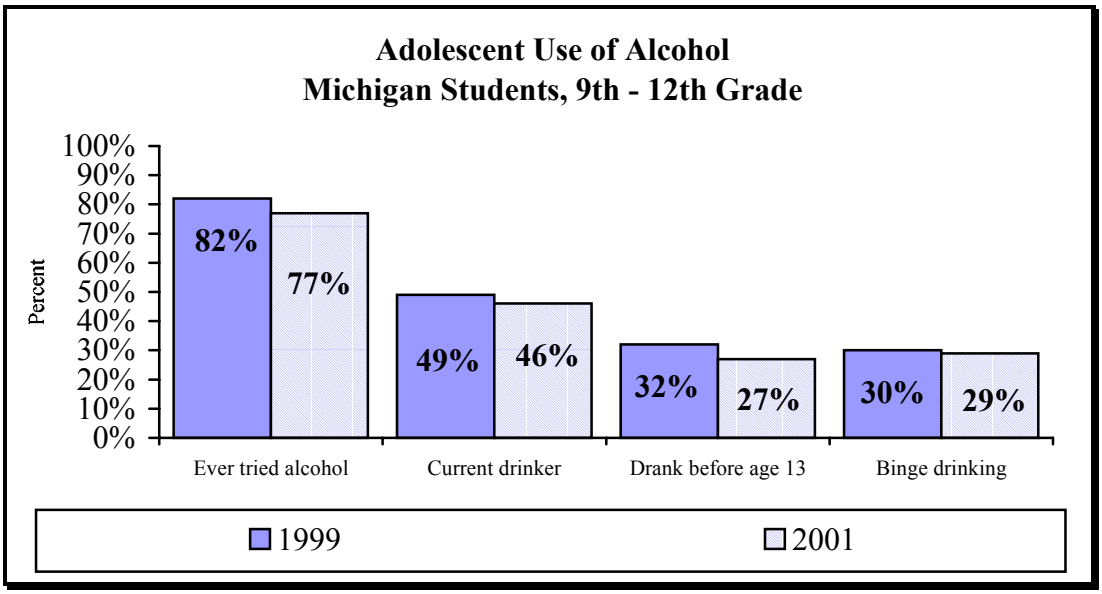
Focused Indicators

Health Risk Behaviors

Adolescent Use of Alcohol, Tobacco, and Other Drugs

How are we doing?

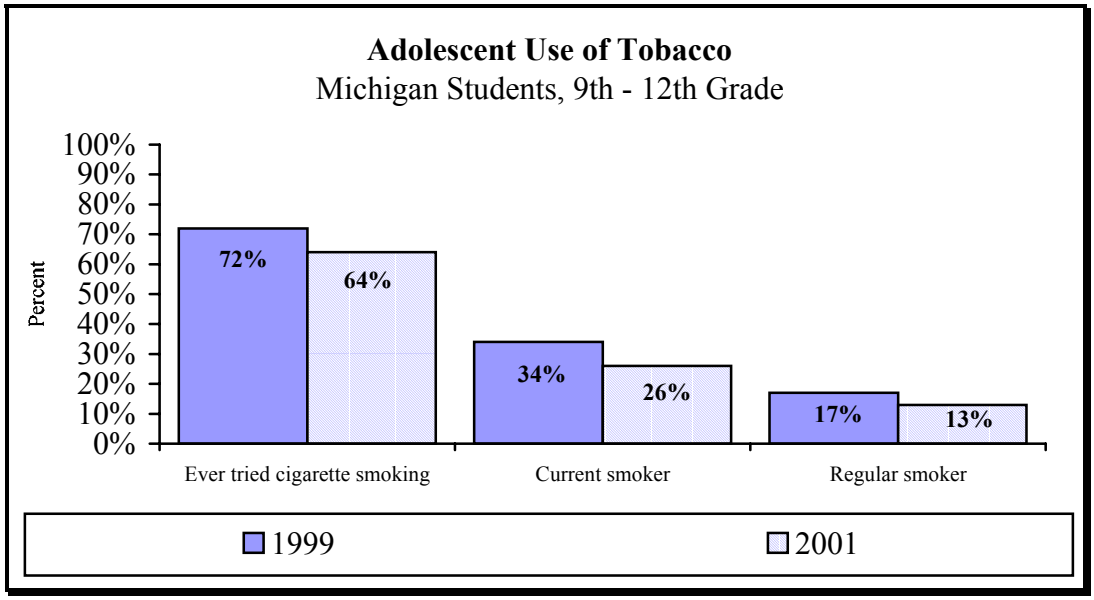
The use of alcohol, tobacco, and other drugs by adolescents jeopardizes the health and well-being of Michigan youth. Adolescent use of these substances is measured by the Michigan Youth Risk Behavior Survey (YRBS). The YRBS is a joint project between the Michigan Department of Community Health and Michigan Department of Education. The 1999 and 2001 surveys obtained a representative sample of ninth through twelfth grade students in public schools. The findings can be considered estimates of the prevalence of health-risk behaviors among Michigan public high school students. Estimates from the 1999 and 2001 surveys are comparable.



Source: YRBS, Health Promotions and Publications, MDCH

People who begin drinking before age 15 are four times more likely to develop alcoholism than those who begin at 21. The 2001 Michigan YRBS reports:

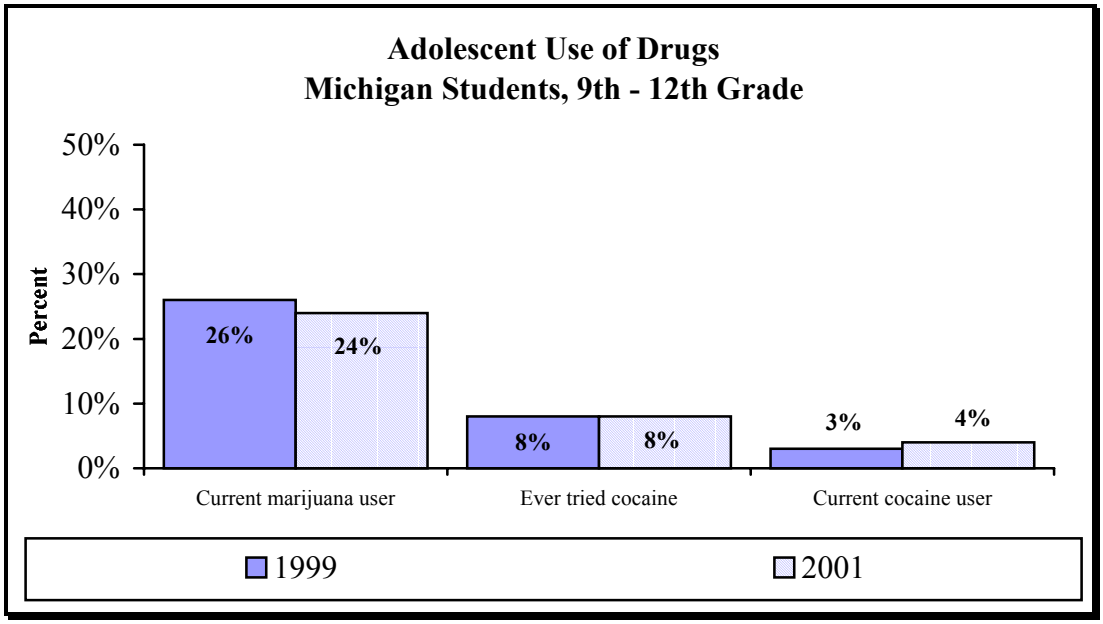
- 77 percent of survey respondents had tried alcohol and 46 percent were current drinkers;
- 27 percent had their first full drink of alcohol before age 13;
- 29 percent engaged in binge drinking; and
- There was no statistically significant difference between the 1999 and 2001 results for these four alcohol use indicators.



Source: YRBS, Health Promotions and Publications, MDCH

According to the Centers for Disease Control and Prevention, five thousand people under age 18 try their first cigarette each day. Approximately 80 percent of adult smokers started smoking before the age of 18, and almost no one begins after the age of 25. The 2001 Michigan YRBS reports:

- 64 percent of survey respondents had tried smoking a cigarette and 26 percent smoked during the previous 30 days (current smoker);
- 13 percent were regular smokers; and
- There was a statistically significant difference between the 1999 and 2001 results for the youth that had ever tried and current smoking indicators but there was no significant difference for the regular smoking indicator.



Source: YRBS, Health Promotions and Publications, MDCH

Despite improvements in recent years, illicit drug use is greater among high school students in the U.S. than in any other industrialized nation in the world. The 2001 Michigan YRBS reports:

- 44 percent of survey respondents had tried marijuana and 24 percent were current users;
- Eight percent had tried cocaine and four percent were current users; and
- There was no statistically significant difference between the 1999 and 2001 results for these three drug use indicators.

How does Michigan compare with the U.S.?

In 2001, the percent of adolescents who identified themselves as having used alcohol, tobacco, and other drugs (cited above) in Michigan was similar to the U.S. average. There was a statistically significant difference between the Michigan (64%) and U.S. (70%) average for youths who stated they had "ever tried cigarette smoking"

How are different populations affected?

Twelfth graders were more likely than students in 9th and 10th grade to drink and binge drink. In general, white students were more likely than African-American students to be recent or regular smokers and current alcohol drinkers; and engage in binge drinking. Males were more likely than females to have reported using heroin. Females were less likely than males to have ever tried various illegal substances or to report recent use.

What other information is important to know?

Heavy drinking by youths has been linked to physical fights, destruction of property, high-risk sexual behavior, other criminal activity, as well as poor academic and employment outcomes.

Tobacco use is the primary cause of preventable deaths in Michigan, accounting for approximately one in five deaths. More than 6.4 million children living today will die prematurely because of the decision they make to start smoking. The Centers for Disease Control and Prevention reports that 70% of adolescent smokers wish they had never started smoking.

Drug abuse is related to increased injuries, early-unintended pregnancies, academic problems, delinquency, and the spread of sexually transmitted diseases. Clinical studies have shown that marijuana can have a host of acute and short-term effects including impairment of skills related to attention, memory, and learning as well as complex motor skills such as those needed to drive a car. Studies also indicate that regular marijuana users may have many of the same respiratory problems as cigarette smokers.

What is the Department of Community Health doing to affect this indicator?

The department is working to prevent adolescent use of alcohol, tobacco, and other drugs. Twenty-one programs within the state offer specialized substance abuse assessment, outpatient, intensive outpatient, and residential services to adolescents. The department also continues to offer leadership and advisory support to Teen Health Center/Alternative models. They provide

primary healthcare services to adolescents, including an evaluation of alcohol, tobacco, and other drug use and provide support to secondary and tertiary services. Health promotion and education are provided to encourage prevention.

Departmental prevention initiatives include information dissemination through newsletters and presentations, education, problem identification and referral, support for coalitions that raise awareness and mobilize communities for change, and environmental activities such as point of sale reduction activities and promotion of healthy lifestyle activities. The department supports peer counseling, mentoring, life skills development, information and help lines, and other prevention programs.

The Michigan Department of Community Health is using the Michigan Model for Comprehensive School Health Education to help improve the health behaviors of students. In kindergarten through twelfth grades, over 1 million students in Michigan are receiving education concerning substance use and abuse and injury and violence prevention each year. Additional aspects of this model include educating students on prevention of communicable diseases, nutrition, and cardiovascular health.

Approximately $13 million in substance abuse prevention and treatment block grant funds are made available for substance abuse prevention efforts to communities throughout the state. Substance abuse prevention needs in each region of the state are prioritized and addressed by incorporating the needs of the general population and the needs of high-risk groups, including youth. In addition, local agencies provide specialized services to additional youth populations, including African American youth, gay/lesbian youth and Arab/Chaldean youth.

To address substance abuse among Michigan's citizens, Michigan has contracted with 16 coordinating agencies to develop comprehensive plans for substance abuse treatment and rehabilitation and prevention services consistent with guidelines established by the department. Coordinating agencies are responsible for providing treatment services to substance abusers including women of childbearing age, pregnant women and children. The coordinating agencies are responsible for developing funding and monitoring and evaluating a network of funded, licensed substance abuse treatment providers within the geographic area. They not only arrange for payment for these publicly funded services, by they are involved in setting standards for the hiring of credentialed counselors, for conducting annual evaluations of the effectiveness of the providers they fund, and for coordinating prevention services.

The department works with local criminal justice agencies, education providers, grassroots organizations, and other state agencies to reduce and prevent adolescent substance abuse, to reclaim and restore neighborhoods, and to educate the children of Michigan about the dangers of substance abuse. Programs such as the Michigan Coalition to Reduce Underage Drinking (MCRUD), a coalition of prevention partners, focus on underage drinking issues through grant awards and support of local coalitions.

The department has sponsored several new programs in partnership with Michigan universities. More than 1,700 resident assistants, hall directors, Greek advisors, and student peer leaders were trained in alcohol interventions on 12 campuses. A Campus Mentoring Program that emphasizes an alcohol and drug-free approach to campus life reaches about 3,000 incoming freshman per

year at 13 participating universities. The department also began an advertising campaign aimed at educating college students on the dangers of binge drinking. In addition to advertisement and information brochures for parents, the department designed a website to address binge drinking and included a Survey of Alcohol Policies with responses from 15 universities.

During the past years, the Safe and Drug Free Schools program serviced almost 1.99 million school children. The DARE program teaches young children about violence prevention and the dangers of substance use. In 1998, more than 200,000 students, parents, and other community members participated in 55 local drug and violence prevention programs. In collaboration with various state agencies and the Executive office, the department worked to develop the "Blueprint for a Drug Free Michigan."

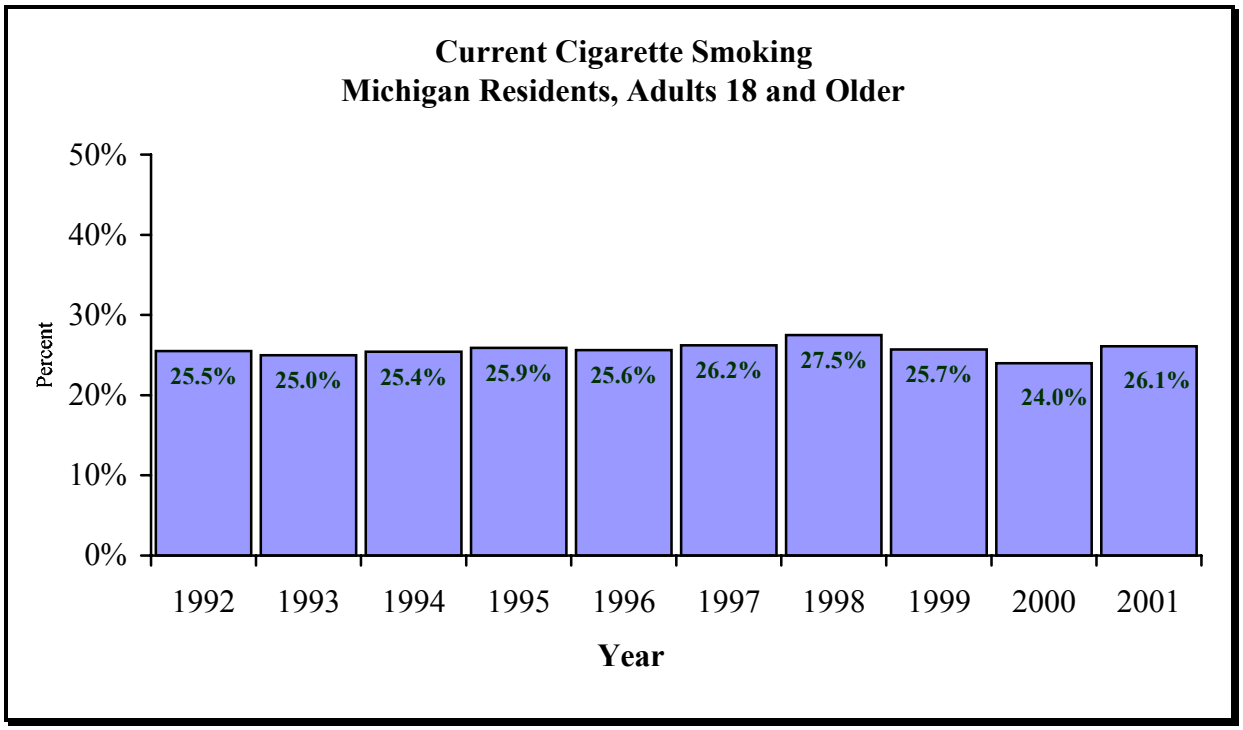
The Michigan Teen Outreach Program (MTOP) strives to increase the number of adolescents in Michigan who are making positive choices to abstain from risky behaviors, including sexual activity and the use of alcohol, tobacco and other drugs through participation in service-learning and abstinence education intervention. Five community organizations are funded through MTOP. An advisory steering committee is in place in each funded community. Each community is expected to reach a minimum of 300 youth with 55-70 hours of intervention per participant. The Cornerstone Consulting Group's Teen Outreach Program is the service-learning curriculum utilized at all sites. The abstinence-plus portion of this curriculum is replaced with a community selected abstinence-only curriculum in order to meet the definition of abstinence education as outlined in Section 510 of Title V of the Social Security Act and the MDCH appropriation boilerplate. Parent education is also implemented in order to encourage parents to talk openly with their children about sexuality and the benefits of abstinence.

Last Updated: June 2003

Focused Indicators

Health Risk Behaviors

Cigarette Smoking



Source*:* Bureau of Epidemiology, MDCH

How are we doing?

Cigarette smoking is the single most preventable cause of premature death. It contributes to:
• heart disease, stroke, and chronic obstructive pulmonary disease, emphysema
• cancer of the lung, larynx, mouth, esophagus, cervix, bladder, breast; and
• low birth weight babies.

An estimated 16,000 Michigan residents die each year from tobacco-caused illnesses. On average, smokers die almost seven years earlier than nonsmokers.

The 2001 Michigan Behavioral Risk Factor Survey (BRFS) indicates that 26.1 percent of Michigan adults are current smokers. Smoking rates among Michigan adults have fluctuated since 1992 when the smoking prevalence was 25.5 percent, but remained rather consistent.

In the Michigan Women, Infants, and Children's (WIC) program, 43.4% of women smoked prior to pregnancy, and 30.3% smoked during pregnancy (*2001 Pregnancy Nutrition Surveillance System [PNSS] data*), although 36.8% of women reported that they had stopped or decreased smoking during their pregnancy.

How does Michigan compare with other states?

In 2001, there was a statistically significant difference between Michigan and the nation in the prevalence of adult smokers. The percent of adults smoking in Michigan was 26.1% while the median among all the states was 22.8%.

Though smoking prevalence has remained relatively steady over the past 10 years, cigarette consumption in Michigan has dropped almost 22 percent since 1993. In 2002, Michigan increased its tobacco tax to $1.25 per pack. It is currently the sixth highest rate in the nation.

How are different populations affected?

Respondents with less than a high school education were almost 2.8 times more likely to report being a current cigarette smoker than those respondents who graduated from college. In addition, the proportion of current cigarette smokers tended to decrease with household income levels and older age groups beginning with the age group 45-54. There is no significant difference between the prevalence of current smokers among African-Americans and Caucasians.

Children of smokers are 40% more likely to be born low birth weight and experience much higher rates of asthma than non-smokers (*PNSS 2001 data).*

What other information is important to know?

The nicotine in tobacco is one of the most addictive substances available, much more addictive than alcohol and most of the illicit drugs commonly used today. Of current daily smokers in Michigan, more than half reported that they had tried to quit smoking in the past year.

Smoking during pregnancy increases the risk of infant mortality, low birth weight, and the adverse outcomes associated with low birth weight. Estimates from the 2000 Michigan PRAMS survey indicated that 24.7 percent of respondents smoked cigarettes during the three-month period before they became pregnant, 15.5 percent during the last three months of pregnancy, and 21.3 percent during the three-month period immediately following delivery. Information from the Centers for Disease Control (CDC) PNSS data indicates that among women enrolled in WIC, smokers had 40% more low birth weight infants.

Smoking greatly exacerbated other chronic diseases such as diabetes and heart disease.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the use of tobacco. Programs to reduce tobacco use include: promoting strong public and voluntary policies to increase the awareness of the dangers of tobacco use and secondhand smoke; to prevent the sale and promotion of tobacco to youth; and to provide a statewide media campaign with prevention, cessation, and secondhand smoke messages.

Tobacco program initiatives include offering free self-help cessation kits, expectant mother quit kits, and tobacco-related information. One statewide project focuses on promoting smoke-free hospital campuses and in-patient cessation programs and follow-up. Legal assistance is offered to businesses and individuals regarding smoke-free policy development along with research and information on tobacco-related laws. The legal project also promotes and assists municipalities and counties in developing smoke-free policies. A statewide task force was developed to assist communities with clean indoor air regulation/ordinance development. The task force was instrumental in the passage of the recent Ingham County and Washtenaw County smoke-free business regulations. Additionally, the Prenatal Smoking Cessation Program is designed to train and support prenatal care providers and staff to assess the stages of readiness to quit in pregnant women. The model delivers positive, clear, concise, and consistent messages direct to the women's stage of readiness to quit.

The Pregnancy Risk Assessment Monitoring System (PRAMS) supplements data for planning and assessing perinatal health program planning to design interventions to reduce adverse pregnancy outcomes. PRAMS monitors smoking in the prenatal population and measures the impact of services and other factors that influence smoking.

Women, Infants and Children (WIC) program enrollees are counseled on the dangers to themselves and their families from using tobacco products.

A new college initiative offers training and materials to promote colleges to initiate stronger policies against tobacco use including smoke-free dorms and campuses, prevention messages, and promotion of cessation to students.

Many agencies serving communities of color are funded to educate their communities about the dangers of tobacco use and secondhand smoke and to promote smoke-free public places and businesses. A new faith-based initiative is also being piloted this year. Cultural resource networks provide culturally and linguistically appropriate tobacco-related materials for the five principle minority groups in the state of Michigan. The network is also actively promoting smoke-free homes. A CDC funded disparities pilot project has created a statewide strategic plan to reduce tobacco-related disparities in Michigan. The plan will be marketed to other organizations in 2003.

A network of 60 local tobacco reduction coalitions focus on raising awareness of tobacco issues, mobilizing communities to support tobacco free policies and decrease the social acceptability of smoking.

Local prosecuting attorneys and other law enforcement agencies continue activities related to the Youth Tobacco Act. In this effort, the department conducts annual, random, unannounced inspections to ensure compliance with existing laws regarding illegal tobacco sales to youth. This continues to be an effective tool in reducing the extent to which tobacco products are available to individuals under the age of 18.

A Youth Tobacco Survey is conducted biannually to determine youth tobacco use rates and trends. This year an Adult Tobacco Survey will be conducted in conjunction with CDC to assist with program planning and evaluation efforts. For more information on youth and substance abuse, see *Critical Health Indicators* chapter 2: Adolescent use of Alcohol, Tobacco and Other Drugs.

A smoke-free schools manual was created to assist schools with the adoption and enforcement of 24/7 smoke-free school policies and tobacco-related education.

Efforts are also underway to initiate a statewide cessation quit-line pilot project.

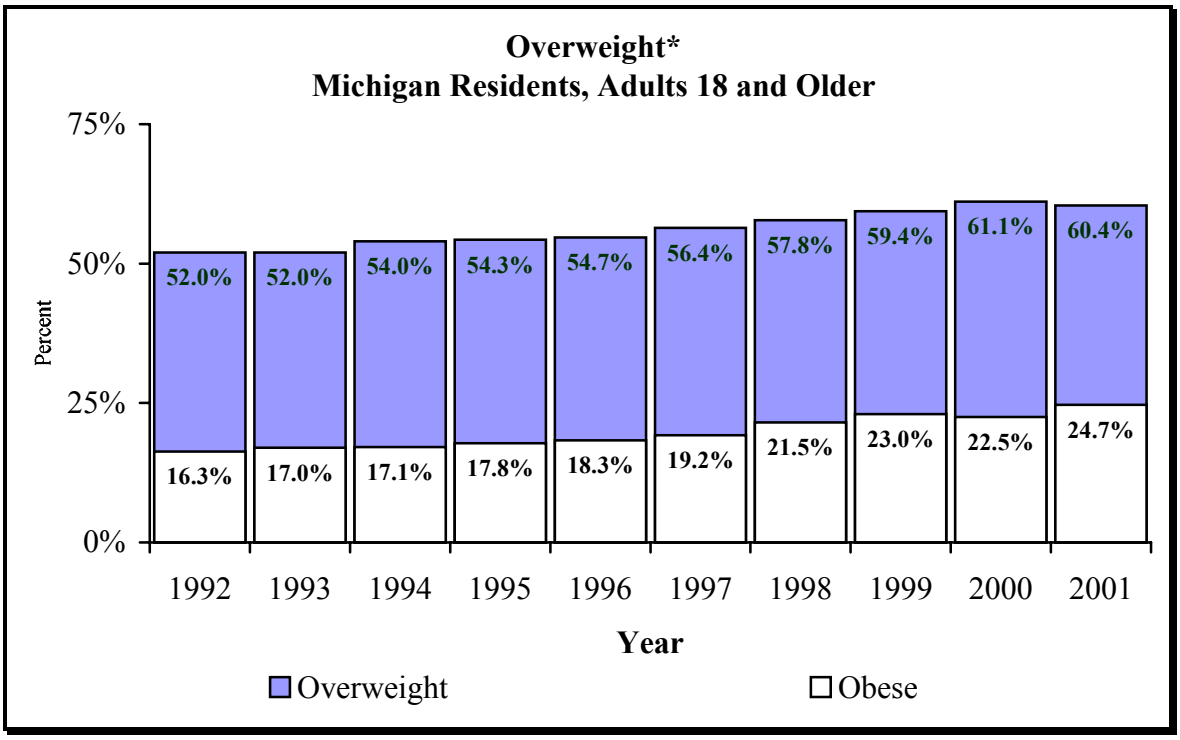
For more information about adult health risk behaviors and/or tobacco control efforts, visit the Michigan Department of Community Health website at ***www.michigan.gov/mdch***.

Last Updated: May 2003

Focused Indicators

Health Risk Behaviors

Overweight



** See Technical Notes Section for definition change.*
Source*:* Bureau of Epidemiology, MDCH, 2003

How are we doing?

Overweight is mainly the result of poor diet, lack of physical activity, environmental barriers to achieve healthy behaviors, genetics, or any combination of these factors. Poor diet and lack of physical activity are second only to smoking as causes of preventable death. Someone who is overweight is more likely to die prematurely than a person in a healthy weight range.

The 2001 Michigan Behavioral Risk Factor Survey (BRFSS) indicates that 60.4 percent of Michigan adults are overweight. Among all Michigan adults, 24.7 percent are obese. The proportion of the adult population that is overweight has been steadily increasing from 52.0 percent in 1992 to 60.4 percent in 2001. Survey respondents are asked for their height and weight, which is then used to calculate a body mass index (BMI).

For more information about body mass index and calculations for children and adults, please visit the Centers for Disease Control and Prevention website at ***http://www.cdc.gov/nccdphp/dnpa/bmi/index.htm***

How does Michigan compare to other states?

The proportion of adults who are overweight has been increasing in both Michigan and the nation, but Michigan has among the highest rates. In 2001, the prevalence of adults overweight in Michigan was 60.4 percent while the median among all the states was 58.2 percent.

How are different populations affected?

According to the 2001 Behavioral Risk Factor Surveillance Survey (BRFSS), the proportion of Michigan adults who were obese tended to increase through the 55-64 year old age group and then decrease. African Americans were more likely to be obese than Caucasians. In addition, adults with less than a high school education were more likely to be obese (27.6%) than those who had graduated from college (20.1%).

For more information about adult health risk behaviors, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***

What other information is important to know?

Overweight and obesity have been linked to several serious medical conditions, including diabetes, heart disease, high blood pressure, and stroke. They are also associated with higher rates of certain types of cancer.

Recommendations for reducing overweight should include consultation with medical professionals; a diet low in fat, rich in high-fiber and complex-carbohydrate foods; and an increase in moderate physical activity. Overweight individuals frequently do not eat enough fruits, vegetables, and whole-grain foods. About one in five respondents in the 2000 BRFS survey ate the USDA recommended five or more servings of fruits and vegetables daily http://www.fns.usda.gov/wic/.

Moreover, one in four adults reported that they did not participate in any physical activity during their leisure time in the past month. A widespread increase in moderate physical activity, such as brisk walking, raking leaves, or playing volleyball for 30 minutes a day, could help prevent the development of overweight in a large proportion of the population.

For individuals who are overweight, increased physical activity and improved diet can decrease the risk of developing a chronic disease even without weight loss. A modest weight loss of 5 to 10 percent will decrease risk further. For some people, this is as little as 5 to 10 pounds.

For more information on the national campaign to increase fruit and vegetable consumption through the National Cancer Institute 5-A-Day Program go to http://dccps.nci.nih.gov/5aday

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the percent of Michigan residents who are overweight by supporting community programs that address healthy eating and physical activity;

as well as working with partners to create environments that support healthy behaviors in communities, schools, healthcare systems and worksites.

Michigan pregnant and postpartum women are receiving nutrition services that include addressing weight maintenance, overweight and other weight-related topics such as optimal prenatal weight gain within the Women, Infant and Children (WIC) program at 249 clinics across the state. The WIC program further provides individualized nutrition counseling and education and health-related referral services to Michigan mothers and children ages birth through fours years of age. WIC currently offers Project FRESH, a summer program for WIC participants to purchase fresh fruits and vegetables at farmers' markets, and thereby increase fruit and vegetable consumption and improve nutrition status.

WIC serves over 190,000 infants and children each month, measures their height and weight, monitors their growth, and provides positive nutrition messages to encourage physical activity and healthy eating among preschoolers and their families. This is aimed at preventing the development of overweight and obesity. The WIC program also promotes breastfeeding, which has been shown to have an impact in reducing subsequent overweight in children.

The Role of Michigan Schools in Promoting Healthy Weight consensus document was developed in collaboration with the Michigan Department of Education to provide practical guidelines for schools to use to promote healthy weight for all students, along with healthy school environments. In cooperation with the Governor's Council on Physical Fitness and the Michigan Fitness Foundation, the department has sponsored the development and distribution of a model physical education curriculum for Michigan schools encouraging lifelong physical activity.

A Centers for Disease Control and Prevention grant is helping Michigan focus attention on obesity in African American women through the Healthy Lifestyle Initiative. This initiative developed consensus recommendations to combat obesity and is implementing an intervention with physicians for African American women.

The 5 A Day for Better Health Program works with local partners to promote fruit and vegetable consumption in the context of a low fat, healthy diet.

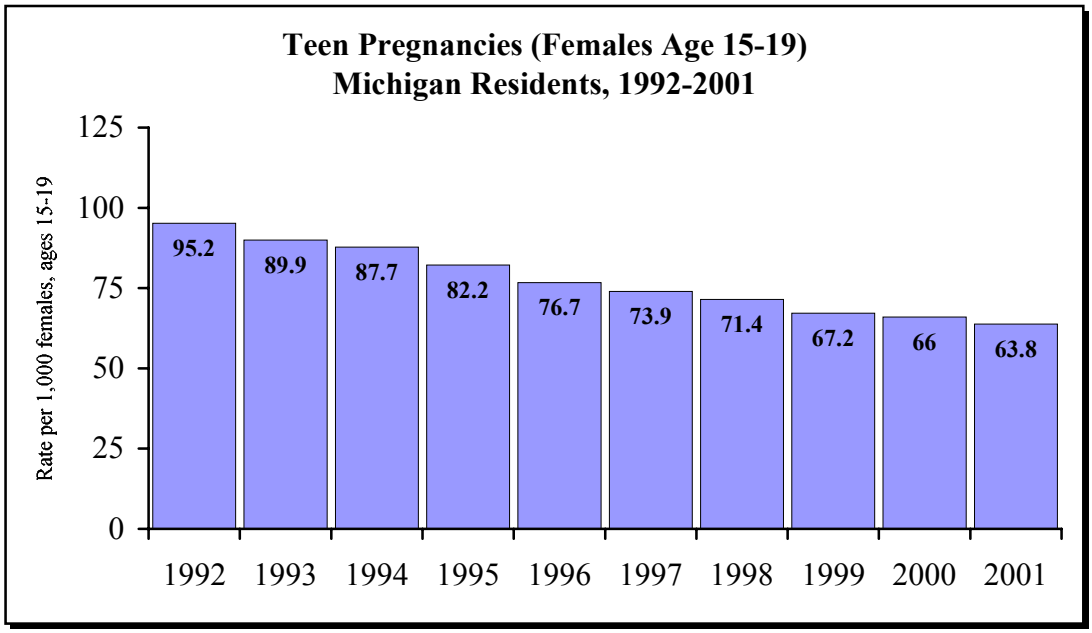
Collaboration with the Michigan Association of Health Plans Foundation spurred the development of a program called, "Taking on Weight in Michigan." This project integrates core measures for overweight and obesity into best practice models of care by educating providers and improving public awareness to facilitate self-management.

Last Updated: May 2003.

Focused Indicators

Health Risk Behaviors

Teen Pregnancy



Source: Division for Vital Records and Health Statistics, MDCH.

How are we doing?

The teen pregnancy rate is an estimate of the proportion of women aged 15-19 who had a live birth, induced abortion, or miscarriage during a given year. Teen mothers are more likely than adult mothers to be high school drop outs, be unemployed, and lack parenting skills. In addition to increased lifetime risk of social and economic disadvantage to both the teens and their children, there are many health risks to the infants. These include increased risk of low birth weight, pre-term delivery, fetal distress, and other adverse outcomes.

In 2001, there were an estimated 21,662 pregnancies among Michigan teenagers or a rate of 63.8 per 1,000 females, age 15-19 years old. The teen pregnancy rate in Michigan has declined by a third (33 percent) since 1992, translating into almost 9,000 fewer teen pregnancies.

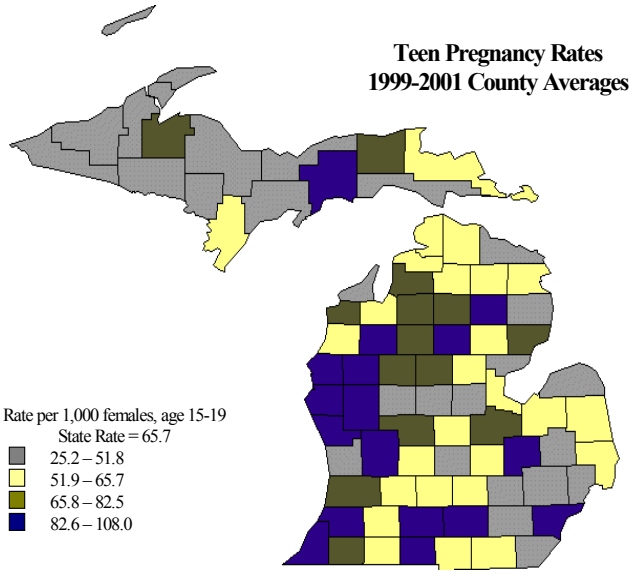
How does Michigan compare with the U.S.?

In 1999, the most recent year for which national figures are available (*The Alan Guttmacher Institute, May 2003*), the Michigan teen pregnancy rate of 67.2 was lower than the U.S. rate of 85.6.

How are different populations affected?

In Michigan, pregnancy rates for ages 15-17 are lower than for those ages 18-19, and both rates have been declining in recent years. Pregnancy rates for ages 15-17 decreased from 56.5 in 1992 to 35.2 in 2001. For those aged 18-19, pregnancy rates have decreased from 148.3 in 1992 to 103.7 in 2001.

For more state and local data on teen pregnancies go to: *www.michigan.gov/mdch*



What other information is important to know?

Few teens that become pregnant intend to do so. Estimates from the 2000 Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) survey indicate that about 70.7 percent of births to teens were unintended. Factors that may contribute to teen pregnancies include lack of health and sex education, alcohol or drug use, history of sexual abuse, lack of or inconsistent birth control practices, low self-esteem, and low self-determination.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to prevent teen pregnancies through family planning services and efforts of the Michigan Abstinence Partnership (MAP) and the Michigan Teen Outreach Program (MTOP).

Family planning providers, through contracts with the department, offer contraceptives and reproductive health services to encourage fertility control. The strong educational and counseling components of the programs help to reduce health risks and promote healthy behaviors. These services include encouraging abstinence and parental involvement as appropriate for sexually active teens. The Family Planning program stays relevant to the needs of sexually active teens by maintaining a teen advisory group to advise on the provision of teen friendly services. One third of the family planning population served are teens, 19 years of age and younger.

The Michigan Abstinence Partnership began in 1993. The MAP program aims to positively impact adolescent health problems by promotion abstinence from sexual activity and related

risky behaviors such as alcohol, tobacco and other drugs. A comprehensive approach targeting 9 - 17 year-old youth (up to 21 years of age for special education populations) and their parents is utilized. Programming is implemented through the community empowerment model. Community coalitions, representative of the local community plan, implement and evaluate program activities. Each community develops a community action plan detailing coalition-based activities uniquely targeted to the youth and families in their area. Coalitions also develop and implement community awareness activities designed to create a community environment supportive of an abstinent lifestyle for teens.

MAP programming includes in school and after school abstinence education activities, drama, mentoring, peer-mentoring, essay contests, service learning, youth events and summer programming. Interventions for youth must provide at least 14 hours of direct educational contact per participant and must be research-based and skills building. All abstinence education activities funded through MAP must meet the definition of abstinence education outlined in Section 510 of Title V of the Social Security Act and the MDCH appropriation boilerplate.

MTOP strives to increase the number of adolescents in Michigan who are making positive choices to abstain from risky behaviors, including sexual activity and the use of alcohol, tobacco and other drugs through participation in service learning and abstinence education intervention. Four community organizations are funded through MTOP.

An advisory steering committee is in place in each funded community. Each community is expected to reach a minimum of 300 youth with 55-70 hours of intervention per participant. The Cornerstone Consulting Group's Teen Outreach Program is the service-learning curriculum utilized at all sites. The abstinence-plus portion of this curriculum is replaced with a community selected abstinence-only curriculum in order to meet the definition of abstinence education as outlined in Section 510 of Title V of the Social Security Act and the Michigan Department of Community Health appropriation boilerplate. Parent education is also implemented in order to encourage parents to talk openly with their children about sexuality and the benefits of abstinence.

In addition to funding, each community is provided technical assistance, evaluation support, annual trainings, educational materials, and statewide media messages. Educational materials that promote the abstinence message are distributed through MDCH's Health Promotions Clearinghouse. A media campaign targets youth and their parents through television, radio, and posters.

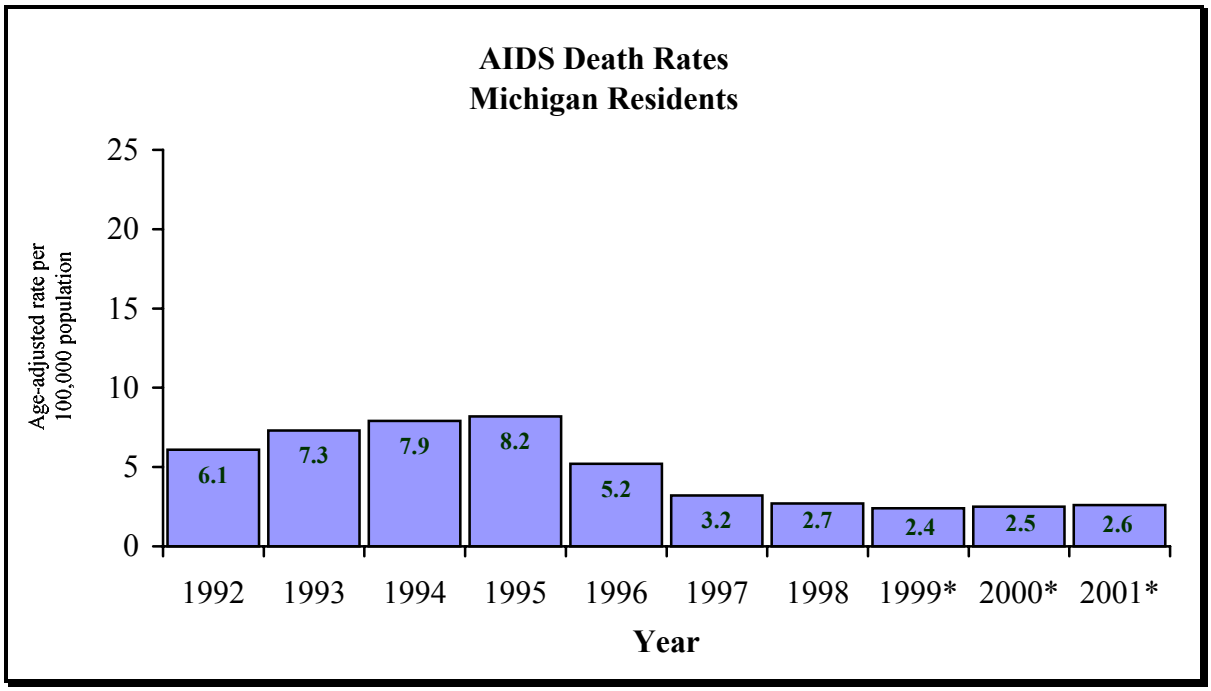
Michigan was one of the first states awarded a federal bonus from the U.S. Department of Health and Human Services in recognition of the state's significant reduction in out-of-wedlock births. The bonus program was established by the 1996 federal welfare reform act. The Michigan Abstinence Partnership has been an important factor in a combination of intervention activities that led to Michigan's dramatic decline in out-of-wedlock births.

Last Updated: August 2003

Focused Indicators

Morbidity and Mortality

AIDS Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

The rate of death due to AIDS in Michigan declined significantly from its peak of 8.2 deaths per 100,000 population in 1995 to 2.6 per 100,000 in 2001. In 2001, there were 253 deaths in Michigan due to AIDS. At the peak in 1995, there were 795 AIDS deaths, the final state of Human Immunodeficiency Virus (HIV).

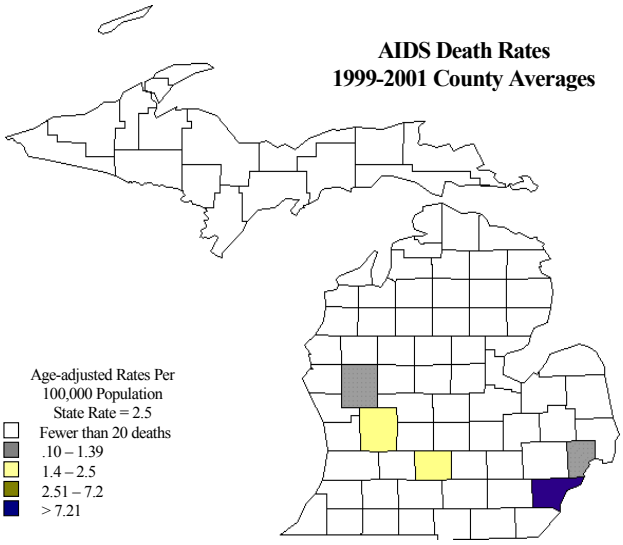
The number of HIV-related deaths (including AIDS) in Michigan declined by two-thirds (2/3) between 1995 and 2001. The decline was marked among all groups, but was significantly greater among white males (80.5%) compared with black males (65%), and women (47%). The number of HIV-related deaths declined significantly in 1995 and 1997 (60%), but has held at between 60 to70 deaths. The decline in deaths is attributed to effective treatments that prolong life but do not eliminate HIV infection. Education and prevention efforts have helped to reduce the incidence of new infections, which also contributes to the decline in AIDS deaths.

While deaths from HIV/AIDS have declined, the number of persons newly diagnosed with HIV infection was roughly level between 1990 and 1997, at 1,100 a year, but had since declined to about 900 in 1996 to 650 cases in 2000. The profiles of persons newly diagnosed with HIV disease has not changed significantly between 1996 and 2000. The proportion remained stable between the different race and sex groups as well as by mode of transmission.

How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted AIDS death rate of 2.5 was less than half the U.S. rate of 5.3 deaths per 100,000 population. Both the U.S. and Michigan have experienced a rapid decline in AIDS deaths since 1995. Michigan ranked 17th in total number of cases compared to all U.S. states, and 29th by cumulative rate per 100,000 population.

How are different populations affected?



In 2001, about 85 percent of all AIDS deaths in Michigan occurred to persons in the 25-64 year old age group. This has historically been the age group with the greatest number of AIDS cases.

Though the mortality rate for AIDS has decreased dramatically for African-American males since 1995 (64.5 compared to 22.7 per 100,000 in 2001), AIDS continues to be one of the leading causes of death for this group. In 2001, the rate of AIDS deaths in Michigan was more than 15 times higher for African-Americans males (22.7) than for white males (1.5).

The state has made progress in eliminating perinatally transmitted (mother-to-child) HIV infection. Since 1997, about two to four children each year become perinatally infected, but preventive treatment of the mother during pregnancy decreases the baby's chances of becoming infected by about two-thirds.

For more state and local data on AIDS deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***. For more information on Michigan-specific perinatal HIV transmission, visit the Centers for Disease Control and Prevention website at ***http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5105a1.htm***.

What other information is important to know?

HIV infection can remain hidden in the human body for many years. Some people may have symptoms in as soon as a few months, whereas others may be symptom-free for more than 10 years. MDCH estimates that there are currently 15,500 persons living with HIV or AIDS in Michigan. About 10,517 of these have been diagnosed and reported. The number of persons living with HIV or AIDS in Michigan is increasing because new cases are still being diagnosed and infected persons are living longer due to treatment.

The decline in AIDS and HIV-related deaths is due to better access to care and the availability of improved treatments, such as combination drug therapies, that delay the onset of AIDS and enable persons infected with HIV to maintain better health for a longer period of time. Education and prevention efforts have helped to reduce the incidence of new infections, which also contributes to the decline in AIDS deaths.

What is the Department of Community Health doing to affect this indicator?

The department's Division of HIV/AIDS-STD (DHAS) focuses its prevention, education, and care programs on the epidemic to affect a decrease in HIV/AIDS morbidity and mortality.

Early access to care is essential in order to maintain optimal health for persons infected with HIV. For this reason, the first goal of the Division's HIV/AIDS care program is to ensure that persons living with HIV (PLWH) have access to and are sustained in primary health care. To this end, DHAS supports a comprehensive continuum of care throughout the state including a drug assistance program, a dental assistance program, medication adherence programs, services targeted to minority populations, and a full range of community-based care services. Case management programs funded by DHAS coordinate care services to increase service access and promote efficient, cost-effective service delivery. For more information, please see http://www.michigan.gov/mdch/0,1607,7-132-2944_5320_5331-36307--,00.html.

In addition to the provision of FDA approved drugs, Michigan's Drug Assistance Program (DAP) (see http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_2982-44913--,00.html) supports immune system monitoring, viral load and genotype testing to facilitate appropriate therapy, and pays for insurance premiums for the previously insured. Michigan's Dental Program (MDP) (see http://www.michigan.gov/documents/dental_6922_7.pdf) is a comprehensive dental access program for the uninsured or underinsured PLWH to enable them to obtain dental care services and maintain optimal oral health. Other continuum of care services supported by the Ryan White CARE Act (Title II) and Michigan Health Initiative (MHI) resources administered by DHAS include ambulatory medical care, client and legal advocacy, mental health services, emergency financial assistance, food banks, psychosocial support, housing-related services, home healthcare, and transportation.

The MDCH Maternal and Child HIV/AIDS program provides services to reduce the perinatal transmission of HIV and assures coordination of medical care and social support services for infected and affected women, children, and families. The program is based on a family-centered care approach for service delivery that recognizes the influence of family in the care and management of the disease.

The Department also supports a range of evidence-based and culturally competent HIV prevention services targeted to communities at greatest risk for transmission/acquisition of HIV, as indicated by epidemiological data. Interventions are designed to facilitate entry into care and treatment or to promote adoption and maintenance of behavioral risk reduction. Services include outreach, education, HIV counseling and testing, partner counseling and referral services, training for health professionals, family planning programs, risk reduction, and prevention case management. These

programs are designed to prevent disease and/or sustain a healthy life for those who become infected.

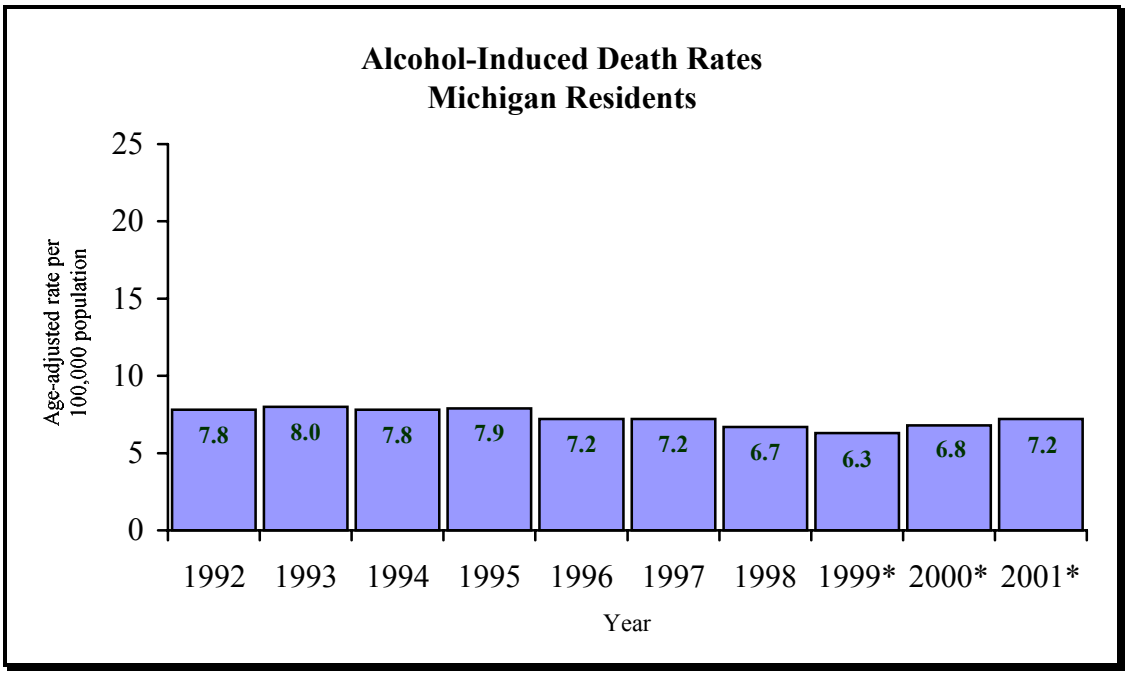
Finally, the nature and extent of the HIV epidemic is monitored using a sophisticated system of active disease surveillance. To view surveillance data and information on HIV/AIDS, see http://www.michigan.gov/mdch/1,1607,7-132-2944_5320_5331---,00.html.

Last Updated: June 2003.

Focused Indicators

Morbidity and Mortality

Alcohol-Induced Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Alcohol-induced mortality includes deaths due to alcohol psychoses, alcohol dependence syndrome, non-dependent abuse of alcohol, alcohol-induced chronic liver disease and cirrhosis, and alcohol poisoning. It does not include deaths due to alcohol-related injury, such as motor vehicle crashes.

The health effects of alcohol abuse and dependency are significant. These effects are difficult to measure directly because the health problems associated with alcohol are often also associated with other diseases. In addition, the social stigma associated with alcohol abuse may lead to denial of alcohol abuse or dependency as a causal factor. One measure of the impact of alcohol abuse on health is the extent of alcohol-induced deaths.

In 2001, there were 704 deaths induced by alcohol in Michigan. The age-adjusted rate for alcohol-induced mortality was 7.2 per 100,000 population.

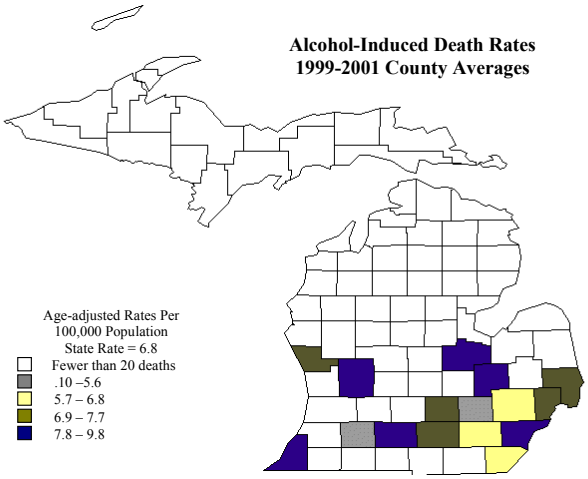
How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted alcohol-induced death rate of 6.8 was similar to the U.S. preliminary rate of 7.0.

How are different populations affected?

The prevalence of problem drinking is highest in the 18-29 year-old age group. The rate of alcohol-induced deaths peaks for 45-54 year-olds (17.7 in 2000) and then tapers off.

In 2001, the rate of alcohol-induced deaths in Michigan was over 50 percent higher for African Americans (10.3) than for whites (6.8).



Michigan men (11.3) were over three times more likely than women (3.5) to die of alcohol-induced causes. However, women develop cirrhosis of the liver at a much lower cumulative dose of alcohol than do men and women remain at increased risk of disease progression even after abstinence. The death rate among women alcoholics is higher than among male alcoholics because of their increased risk for suicide, alcohol-related accidents, cirrhosis, and hepatitis.

For more state and local data on alcohol-induced deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Some 100,000 people die each year in the United States as a result of alcohol, making it the third leading cause of preventable mortality after tobacco use and poor diet and activity behaviors.

The victims of alcohol abuse and dependency extend far beyond the individuals who actually engage in the behavior. Alcohol abuse and dependency is associated with infant mortality and morbidity, traffic fatalities, domestic violence, and many other health conditions that lead to disability and death.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease morbidity and mortality due to alcohol abuse by funding substance abuse treatment services throughout the state. A radio show titled “The Older Problem Drinker” was broadcast on 18 local radio programs to draw attention to the problem of alcohol abuse among the elderly.

The department also supports programming that focuses on changing community norms around alcohol use, reducing underage drinking, and reducing the number of alcohol related crashes.

Programs such as the Michigan Coalition to Reduce Underage Drinking (MCRUD), a coalition of prevention partners, focus on underage drinking issues through grant awards and support of eight local coalitions. An advertising campaign is aimed at educating college students on the dangers of binge drinking. A campus-mentoring program emphasizes an alcohol and drug-free approach to campus life. Work site coordination focuses on substance abuse and traffic safety issues targeting 18-21-year-old workers not in school.

The department collects data on the frequency of consumption of alcoholic beverages, binge drinking, and drinking and driving by Michigan adults. This information is obtained through the Michigan Behavioral Risk Factor Surveillance System and other research activities.

Michigan continues to work with local courts and law enforcement units throughout the state to provide substance abuse services for residents that appear before the courts. In FY 2002, about 25% of all treatment admissions in the state came from court referrals or from referrals from some other criminal justice unit.

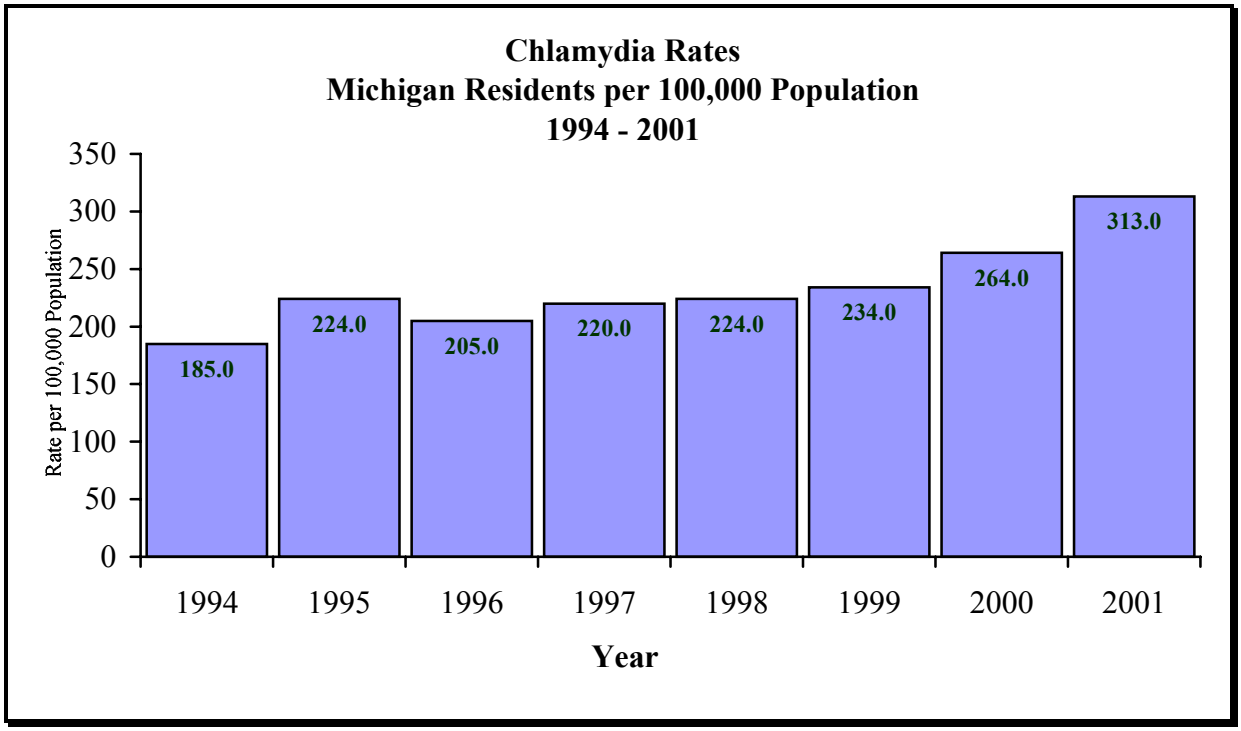
The Office of Drug Control Policy (ODCP) funds the Michigan Resource Center to distribute alcohol, tobacco and other drug materials, as well as highway safety information. Materials include brochures, pamphlets, videos and promotional items. Informational materials are available to support the following statewide prevention awareness campaigns: Alcohol, Inhalants, Marijuana, Parenting and Alcohol-Related Birth Defects. To receive additional information on these material please contact the Michigan Resource Center at 1-800-626-4636 or www.michiganresourcecenter.org

Last Updated: May 2003.

Focused Indicators

Morbidity and Mortality

Chlamydia



Source: MDCH Bureau of Epidemiology
For additional statistics on reported sexually transmitted diseases go to:
http://www.mdch.state.mi.us/pha/osr/index.asp?Id=12

How are we doing?

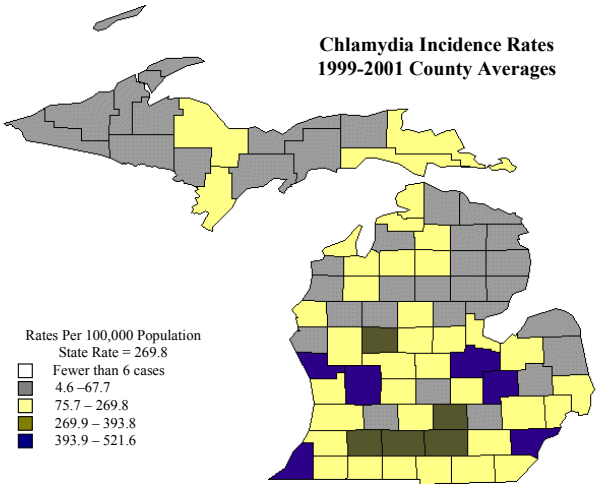
Chlamydia is a bacterial infection predominately spread through sexual contact. It is one of the most common sexually transmitted diseases (STD) in the U.S., responsible for an estimated four million cases each year. Chlamydia can be successfully treated with antibiotics.

In Michigan, reporting for chlamydia began in 1992. Although the rates of chlamydia have increased since then, this may be due to the results of improved reporting and increased testing, particularly for women. However, testing in men still lags behind. In 2001, there were 31,090 reported cases of chlamydia. The rate of chlamydia incidence was 313 per 100,000 population. As reporting continues to improve, future rates are expected to be greater, but may more accurately reflect actual incidence in both men and women. Eventually, with sufficient diagnosis and treatment, rates should decrease.

How does Michigan compare with the U.S.?

In 2001, Michigan's chlamydia rate of 313 was higher than the U.S. rate of 278, reflecting better testing and reporting.

How are different populations affected?



Women 20-24 years old have the highest number of reported cases with 9,337 in 2001. This represents approximately 38 percent of the 24,550 reported cases of chlamydia for women in 2001. There were only 6,540 cases reported for men in Michigan. Because screening targets females, who have more complications, female rates are higher than for men. Rates are even higher for Hispanics and much higher for African Americans.

What other information is important to know?

Chlamydia infection results in increased health care cost, especially among women. Chlamydia is the most common cause of infertility due to blocked fallopian tubes and complications of pregnancy. Perinatal chlamydia infections are a common cause of infant pneumonia and the most common cause of newborn eye infections.

New, more sensitive testing methodology may result in more men being tested, diagnosed, and treated for Chlamydia. As testing and reporting continue to improve, it can be expected that future rates will more accurately reflect actual incidence of Chlamydia.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the prevalence of chlamydia and its health consequences. The department participates in the national Infertility Prevention Project (IPP) and has established screening sites in family planning, adolescent health, and sexually transmitted disease clinics. These sites are involved in testing and targeting those at high-risk, such as persons aged 15-24, those with symptoms, or those exposed to chlamydia. Infected patients are treated and counseled regarding the need for sexual partner examination. The department distributed drugs for local health department use and also provides presentations on the chlamydia epidemic in Michigan that explain the consequences and related costs of untreated disease.

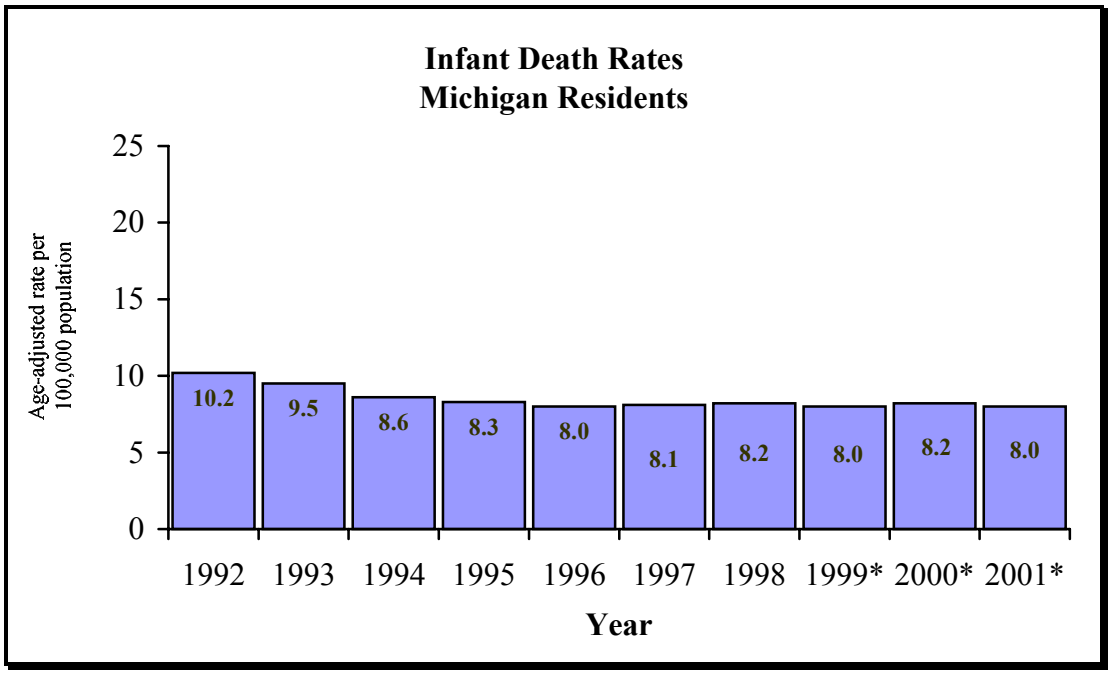
The Adolescent Health Services Program goal is to achieve the best possible physical, intellectual, and emotional status of adolescents by providing services of high quality, accessible, and acceptable to youth. The Adolescent Health Program provides base funding support through the Michigan Department of Education (MDE) to 22 clinical teen health centers (THCs) in Michigan. The clinical teen health center model, through either school-based or linked health centers, provides on-site primary health care, psycho-social services, health promotion/disease prevention education and referral services to youth 10-21 years of age. In calendar year 2002, the total number of teens receiving services through the clinical THCs was16,623. Each state-funded THC is required to provide STD diagnosis and treatment as part of their minimum services, including diagnosis and treatment for chlamydia.

Last Updated: May 2003

Focused Indicators

Morbidity and Mortality

Infant Mortality



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Infant mortality measures the number of deaths to children under the age of one. Infants with low birthweight or pre-term delivery have a higher risk of infant death. Socioeconomic status, lifestyle behaviors, prenatal care, and medical care are factors that impact infant mortality.

In 2001, there were 1,066 infant deaths in Michigan, resulting in a death rate of 8.0 per 1,000 live births. During the past 10 years, the state's infant mortality rate declined almost 22 percent. However, this decline has leveled off since1996 for the overall rate of infant mortality.

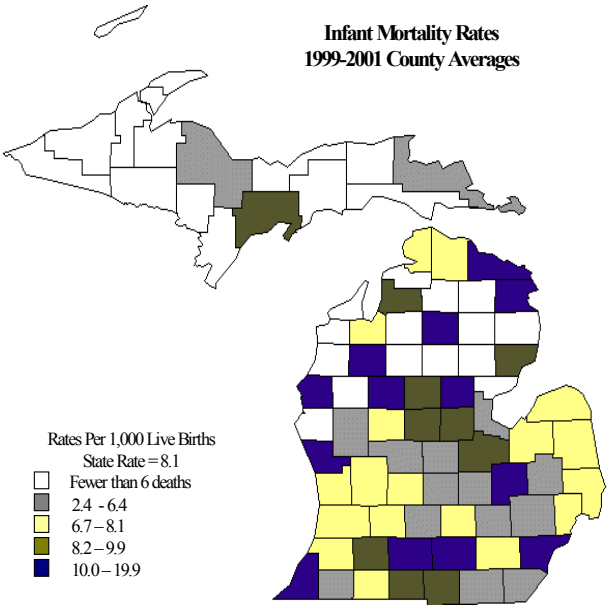
How does Michigan compare with the U.S.?

Michigan's infant mortality rate is generally above the national average. In 2000, Michigan's infant mortality rate of 8.0 was higher than the U.S. rate of 6.9.

How are different populations affected?

Infant mortality rates are higher for babies born to teen mothers. In 2001, children born to Michigan mothers under age 20 had an infant death rate of 13.0, an increase of 8% from the previous year.

The African-American infant mortality rate is more than two and a half times that of the white infant mortality rate. In 2001, the Michigan infant mortality rate for African-Americans was 16.9 while for whites it was 6.1.



For more state and local data on infant deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch*.**

What other information is important to know?

Leading causes of infant death are congenital anomalies, disorders relating to prematurity and low birthweight, Sudden Infant Death Syndrome (SIDS), problems related to complications during pregnancy and childbirth, respiratory distress syndrome, infections, and injuries. Two-thirds of infant deaths occur within the first 28 days of life.

Children born to mothers who smoke or use tobacco during their pregnancy have higher than average infant mortality rates.

Data demonstrates that unintended pregnancies have poorer outcomes, yielding a less healthy infant whose survival becomes more tenuous. Family Planning allows women to control their fertility to time pregnancies when they and their family are ready.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease risk factors associated with infant deaths. Local Maternal and Infant Support Services (MSS/ISS), through contracts with the department, offer services to Medicaid-eligible pregnant women and infants. The mother and infant receive support services from a nurse, social worker, and nutritionist. The department also informs the public and providers about measures to reduce the risk of SIDS through the Sudden Infant Death Prevention program.

The Prenatal Care Clinic program is a demonstration project designed to facilitate healthy pregnancy outcomes in a high-risk community. The project addresses unique community needs to assure access to prenatal care, medical care and WIC services. The current project is addressing transportation to care issues for pregnant women, infants, and children in Oakland County. There is also Michigan's Maternal Child Health (MCH) hotline, 26-BIRTH, is a toll free number available to obtain information about accessing health care services for the maternal child health population. This hotline provides information on the Women, Infants and Children's Supplemental Food (WIC) program and the safe delivery of unwanted newborns to protect their lives.

The Michigan Women, Infants, and Children program (WIC) provides nutrition, education, and referral services to more than 400,000 women annually. WIC is associated with increased birth weight, longer gestational age, reduced incidence of low birth weight, and lower incidence of pre-term birth (USDA report 10/91). WIC provides breastfeeding education and support, infant formulas, and nutrition education referrals to other community health services for low to moderate-income families.

The Pregnancy Risk Assessment Monitoring System (PRAMS) supplements data for planning and assessing perinatal health program planning to design interventions to reduce adverse pregnancy outcomes.

The Camp Health Aid Program is a grassroots support services program for pregnant women, infants, and children who reside in migrant camps. The peer advocates reach out to the target population to provide support, promote accessing health care services and provide basic health education.

Healthy Kids provides Medicaid benefits to low-income eligible children. Medicaid benefits assure access to health care for children. Additionally, currently the MIChild program provides health insurance to eligible children under 200% of poverty and not eligible for Healthy Kids. Health insurance improves access to health care services for infants.

The department provides training for health professionals and other service providers working with pregnant women to recognize and treat nicotine addiction. Prenatal smoking cessation training teaches providers how to assess clients' stage of readiness to quit and how to offer support and education based upon their readiness status. The program also includes educational and motivational tools that support cessation efforts.

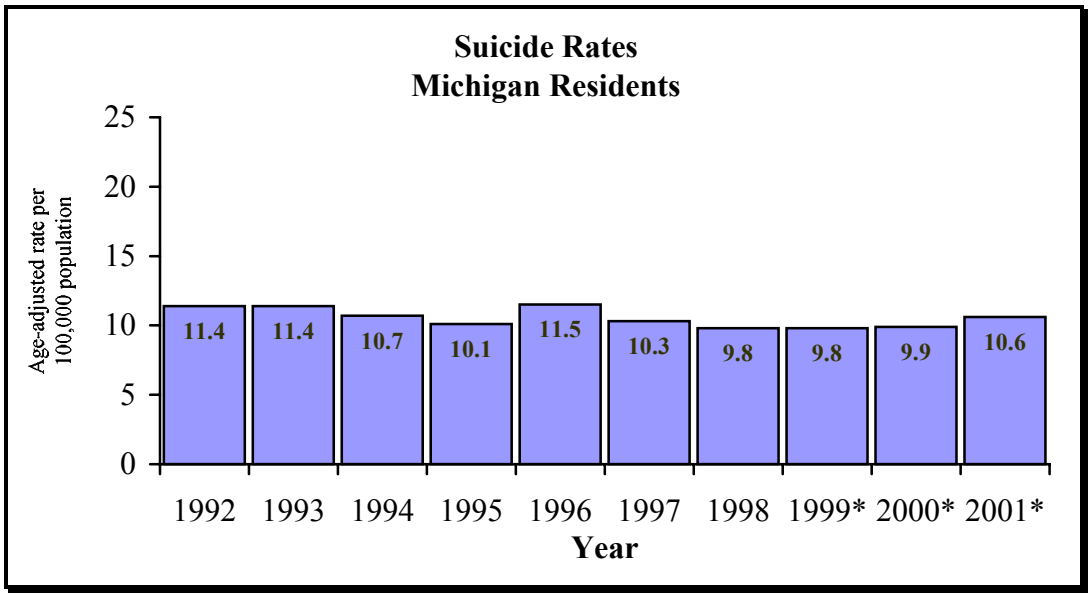
Fetal Infant Mortality and Child Death Review Teams throughout the state systematically examine deaths to determine their contributing factors. These factors are analyzed to determine if recommendations can be made to prevent future deaths. In addition, all Michigan newborns are tested for seven potentially fatal and/or debilitating diseases. Appropriate treatment can be rendered through testing and accurate diagnosis.

Last Updated: May 2003

Focused Indicators

Morbidity and Mortality

Suicides



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Suicide is the fourth leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75 in Michigan.

Suicide is death caused by purposely self-inflicted injuries. Deaths are classified as suicide even if the person did not intend the injuries to result in death. Almost all people who kill themselves have a diagnosable mental or substance abuse disorder or both, and the majority have depressive illness. The most promising way to prevent suicide and suicidal behavior is through the early recognition and treatment of depression and other psychiatric illnesses.

In 2001, there were 1,045 suicide deaths in Michigan. The age-adjusted rate for suicide was 10.6 per 100,000 population. During the past 10 years, the rate of death from suicide in Michigan has declined by 7 percent.

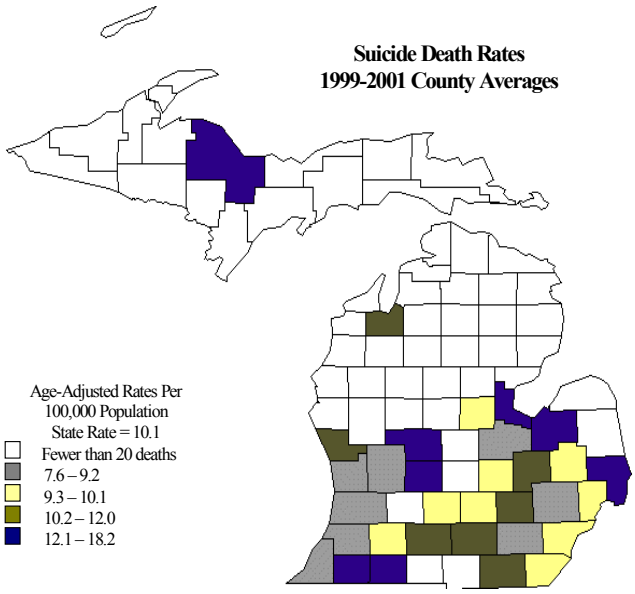
How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted suicide rate of 9.9 was lower than the U.S. rate of 10.6. Nationally, suicide was the fifth leading cause of YPLL in 1999.

How are different populations affected?

The suicide rate for children in the U.S. was two times higher than the combined rate for the 25 other most industrialized countries from 1990 to 1995.

Suicide was the third leading cause of death in Michigan for ages 15-34. While suicide is a leading cause of death for 15-34 year-olds, the suicide rates are highest for those 75 years and older.



In 2001, whites in Michigan were almost twice as likely (11.2) as African-Americans (6.8) to commit suicide. Michigan men were over four times more likely to commit suicide than women (18.0 and 4.0, respectively).

For more state and local data on suicide deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Most people who are depressed do not kill themselves, although suicide is considered a possible complication of depressive illness when combined with other risk factors, such as:

- one or more other diagnosable mental or substance abuse problem(s);
- brain chemical imbalance;
- lack of impulse control;
- adverse life events;
- family history of mental illness, substance abuse disorder, or suicide;
- family violence, including physical or sexual abuse;
- prior suicide attempt;
- firearm in the home;
- incarceration; and
- exposure to the suicidal behavior of others.

What is the Department of Community Health doing to affect this indicator?

The department responds directly to persons who are of potential danger to themselves as a result of mental illness by providing psychiatric inpatient care at three adult and one child and adolescent state-operated psychiatric hospitals as well as one of the community hospitals.

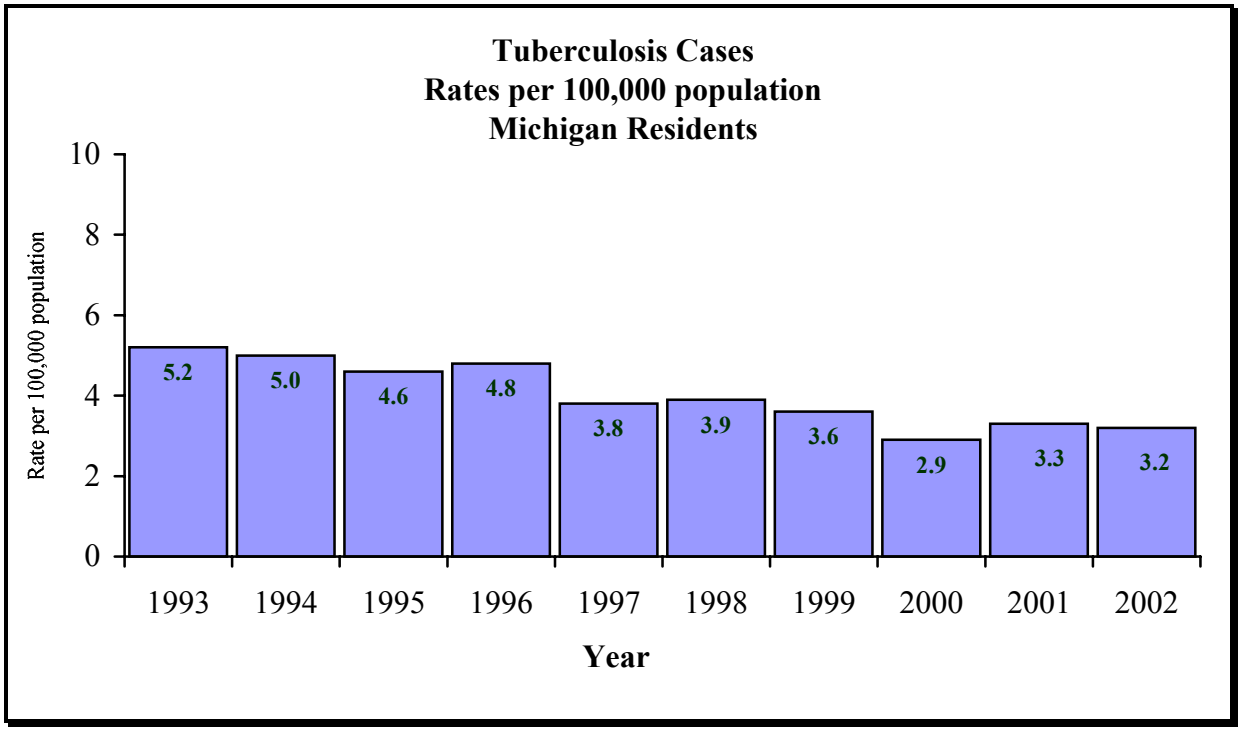
Community Mental Health Service Programs (CMHSP), through contracts with the department, offer services such as psychiatric inpatient care, hospital-based crisis observation care, intensive crisis residential and stabilization services, and assertive community treatment. CMHSPs offers wrap-around services to minors with serious emotional disturbances or serious mental illness and their families. These services include treatment services and personal support services to maintain the child in the home. Over 1,368 children and their families were served in 2000. In addition, 49 respite services programs served 4,759 children and their families providing short-term intermittent care and supervision to children and adolescents. Currently underway are five grants specifically targeted to the prevention of suicide in the older adult population. All CMHSP continue to provide and expand their services to persons with serious mental illness who reside in county jails, detention facilities, or are under court supervision and parole.

Last Updated: May 2003

Focused Indicators

Morbidity and Mortality

Tuberculosis Morbidity



Source: Division of Disease Control, MDCH

How are we doing?

Tuberculosis (TB) is a communicable disease that is spread through airborne respiratory secretions (or droplets), such as a cough or a sneeze. Persons in close contact with persons with infectious TB are at greater risk for infection. TB mainly affects the lungs and can possibly spread to bones and other parts of the body. TB can stay in the human body for many years before causing active disease.

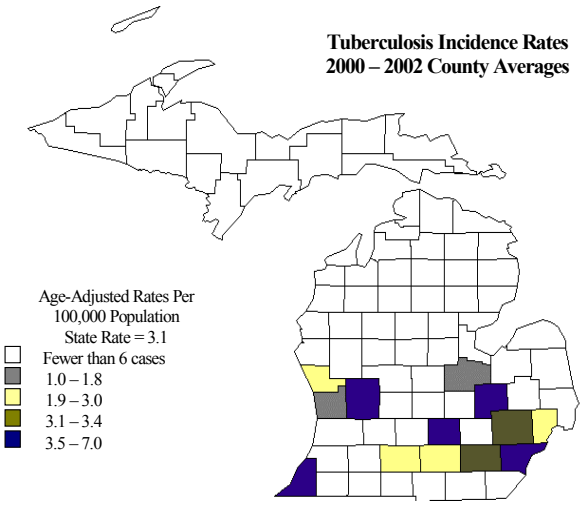
From 1993 to 2002, the number of tuberculosis cases reported in Michigan decreased from 484 to 315 cases per year. The 2002 tuberculosis case rate was 3.2 per 100,000 population. During the past 10 years, deaths due to all forms of TB have remained stable with 31 deaths in 2001.

How does Michigan compare with the U.S.?

Michigan's tuberculosis rate has been consistently lower than the national rate. In 2002, the U.S. rate of 5.2 was higher than Michigan's rate of 3.2. Michigan ranked 30th among the states for tuberculosis rate, with number one having the highest rate.

How are different populations affected?

The highest age-specific TB incidence rates are among the elderly. Other groups at higher risk of contracting TB are the homeless, alcoholics and substance abusers, those infected with HIV/AIDS, and those born in countries with a high prevalence of TB. Members of these groups are at higher risk if they live in an urban setting.



What other information is important to know?

Two preventive measures are used against the spread of tuberculosis. First is the very limited use of a specific vaccine in certain high-risk individuals. The second involves testing relatives and close friends of a person who tests positive for tuberculosis. Early detection diminishes the risk of spreading the disease by allowing for early treatment and isolation.

If properly treated, tuberculosis caused by drug-susceptible strains is curable in virtually all cases. If untreated, the disease is fatal in more than half the cases within five years. The incidence of drug-resistant TB has been increasing during the 1990s.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the prevalence of tuberculosis and its adverse effects on those infected. The TB control program maintains the statewide registry for TB cases and provides consultation and guidance for all other aspects of TB control. One of the main functions of TB control is to educate local TB staff and ensure that the appropriate measures are taken to control tuberculosis. Each local health jurisdiction is required to maintain a tuberculosis control program. These programs must provide for the treatment and diagnosis of tuberculosis and examination of contacts of those infected with tuberculosis. The department provides a statewide testing program for rapid and accurate diagnosis of TB and identification of effective anti-microbial agents appropriate for treatment.

Last Updated: May 2003

Tuberculosis Morbidity Rates Per 100,000 Population
By County of Residence, Michigan Residents
3-year Averages 2000-2002

County of Residence	Rate
Michigan	3.1
Wayne	6.7
City of Detroit	10.8
Berrien	7.0
Calhoun	1.7
Ingham	3.5
Kent	3.4
Genesee	3.2
Washtenaw	3.1
Oakland	3.0
Jackson	2.3
Macomb	2.2
Saginaw	1.9
Ottawa	1.8
Monroe	1.6
Muskegon	1.4
Kalamazoo	1.0

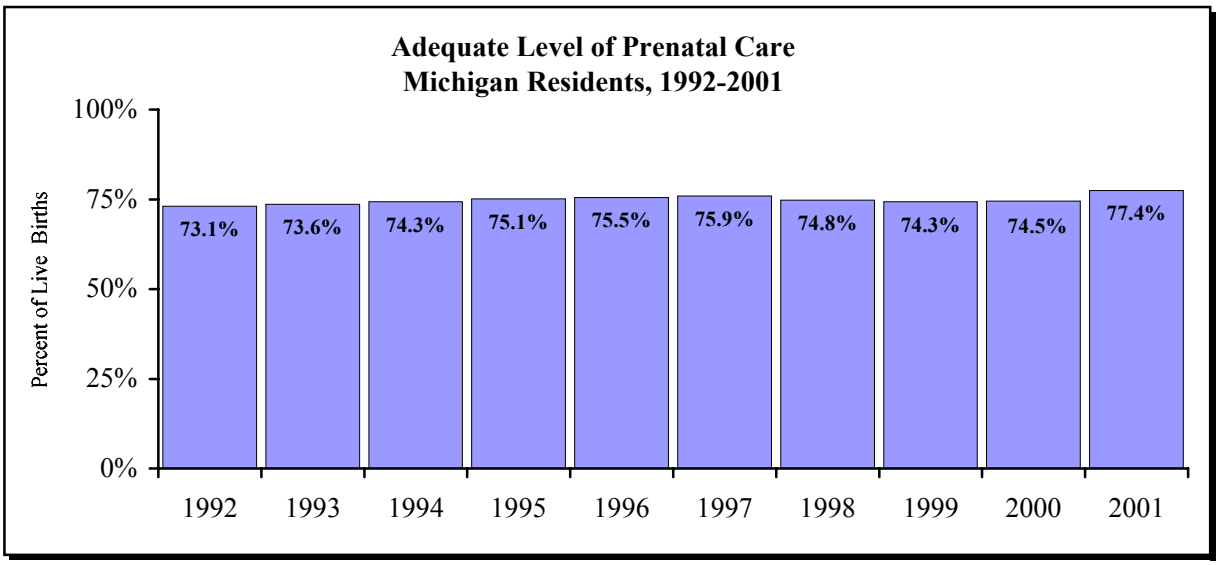
Source: Bureau of Epidemiology, MDCH

Last Updated May 2003

Focused Indicators

Preventive Health Care

Adequacy of Prenatal Care



Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Adequate prenatal care, including initiating care in the first trimester and receiving regular care until delivery, can be an indicator of access to care and may result in fewer birth complications and healthier babies. The effect of early prenatal care is strongest for high-risk groups such as teens and low-income women.

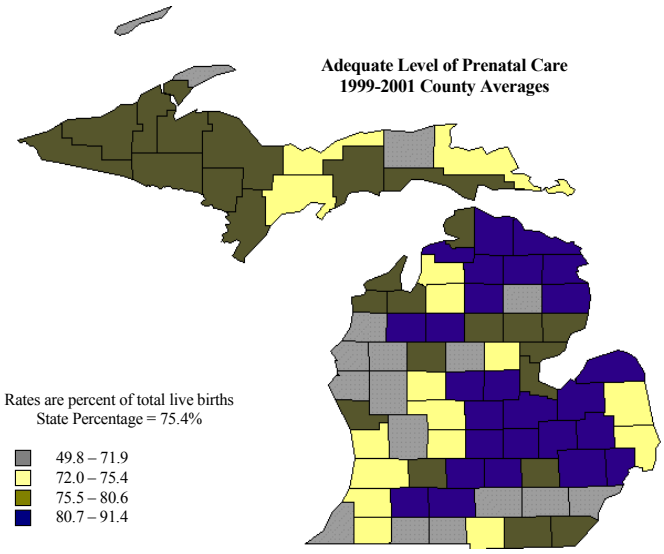
The Kessner Index is a standard measure of prenatal care based on information obtained from birth certificates. It combines information on the month prenatal care began, the gestational age at birth, and the number of prenatal visits.

In 2001, 77.4% of live births in Michigan were to mothers with an adequate level of prenatal care, 15.0% were to mothers with an intermediate level of care, and 7.3% were to mothers with an inadequate level of care. The percent of mothers with adequate levels of prenatal care has gradually increased over the past 10 years from 73.1% in 1992 to 77.4% in 2001.

How does Michigan compare with the U.S.?

The percent of live births to mothers with an adequate level of prenatal care in Michigan is similar to the U.S. data. In 1995, the most recent year for which national figures are available using the Kessner Index, 74.3% of mothers received adequate levels of prenatal care in the U.S.

How are different populations affected?



Women age 30-39 years are most likely to receive adequate levels of prenatal care while women under age 20 are least likely to receive adequate levels of prenatal care. African-American women are least likely to receive adequate levels of care (61.6%) compared to whites and other races (81.0% and 77.1%, respectively). Lower income Michigan women enrolled in WIC reported adequate care for 72.4% vs. 74.9% for women enrolled in WIC nationwide.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to improve the quantity and quality of prenatal care. Maternal Support Services (MSS) are provided to pregnant Medicaid beneficiaries identified as needing assistance to assure adequate and appropriate medical care and support services. Transportation to medical appointments and services is a prominent and frequently used service of the MSS program.

The Prenatal Care Clinic program is a demonstration project designed to facilitate healthy pregnancy outcomes in a high-risk community. The project addresses unique community needs to assure access to prenatal care for the low-income population. The current project is addressing transportation to care issues for pregnant women, infants, and children in Oakland County.

Medicaid managed care contracts require continuity of care for pregnant women. If a pregnant woman is enrolled in a Medicaid managed care plan, she is guaranteed access to her current prenatal care provider until delivery even if the provider is not participating in the health plan in which she is enrolled.

The WIC program actively refers pregnant women to healthcare and social services during pregnancy. The WIC division's Project FRESH provides access to Michigan-grown fruits and vegetables and nutrition education for low-income pregnant women. This promotes a healthy diet and weight for both the mother and child.

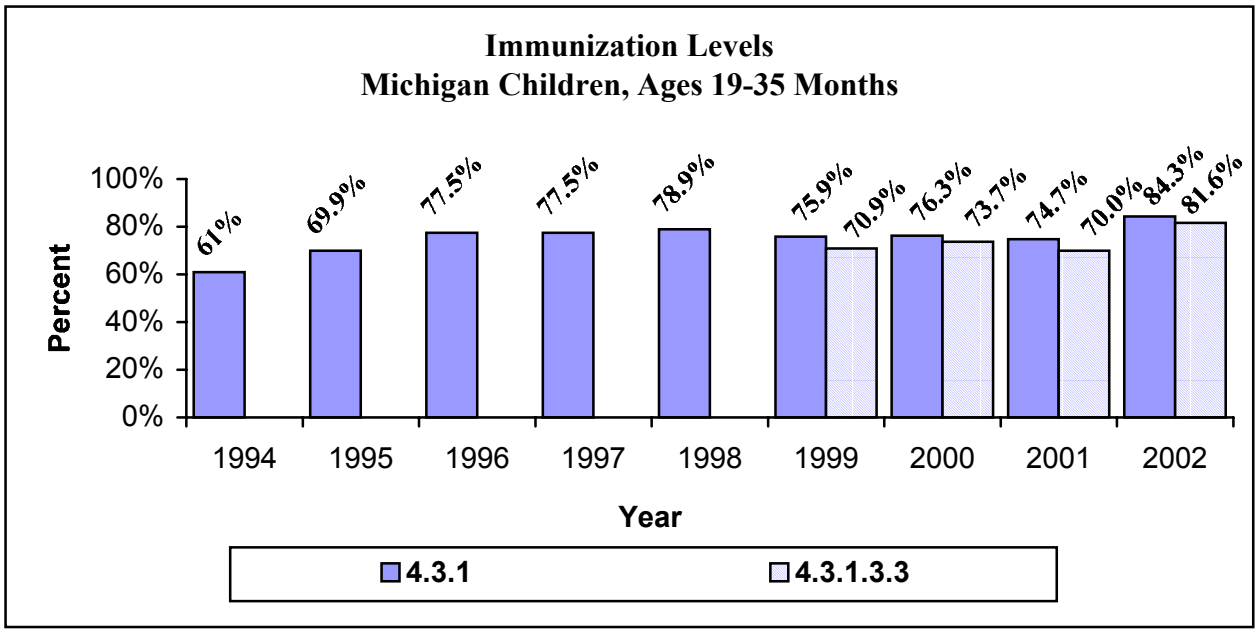
The department provides prenatal and perinatal testing services that aid in the diagnosis of life threatening maternally transmitted infectious diseases. Appropriate treatment can be rendered through testing and accurate diagnosis.

Last Updated: May 2003.

Focused Indicators

Preventive Health Care

Childhood Immunizations



Source: National Immunization Survey, CDC

How are we doing?

Immunization is the process by which a person is rendered immune or resistant to a specific disease. Childhood immunizations provide protection against:

Varicella (chickenpox);
Diphtheria;
Haemophilus influenzae type B;
Hepatitis B;
Measles;
Mumps;
Pneumococcal disease;
Polio;
Rubella;
Tetanus; and
Pertussis (whooping cough).

These diseases are serious and may even be life threatening in very young children. Therefore, most of these vaccines should be administered in the first two years of life.

Prior to 1999, immunization levels in Michigan were based on the percentage of children two years of age who had received four doses of a vaccine containing diphtheria, tetanus and pertussis components (DTP or DTaP), three doses of polio vaccine, and one dose of a vaccine containing measles, mumps and rubella components (MMR) (4.3.1). In 1999, three doses of *Haemophilus influenzae* type B vaccine (Hib) and three doses of hepatitis B vaccine (Hep B) were added to the list of vaccines used to assess the extent to which Michigan's children are

appropriately immunized (4.3.1.3.3). The 2002 National Immunization Survey indicates that 81 percent of Michigan's two-year olds were fully immunized using the new standard (4.3.1.3.3) and 84.3 percent immunized under the prior 4-3-1 standard.

How does Michigan compare with the U.S.?

Using the National Immunization Survey in comparing the 4.3.1.3.3 standard for Michigan and the United States, Michigan's 2002 immunization rate of 81.6 percent was higher than the U.S. rate of 74.8 percent. Michigan's childhood immunization rates have increased nearly 12% from 2001 to 2002.

What other information is important to know?

As a direct consequence of successful immunization, vaccine-preventable diseases have become less common. Major barriers to infant and childhood immunization have been identified including: (1) low public awareness and lack of public demand for immunization, (2) inadequate access to immunization services, and (3) missed opportunities to administer vaccines.

Of particular concern are missed opportunities, when a child could have received an immunization but did not, often because the child's immunization status was not reviewed. On average, children visit a health care provider 10 times by their second birthday. It takes only five visits to administer the recommended vaccines.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to increase childhood immunization. The federal Vaccines for Children (VFC) and the MI-VFC programs make vaccines available to children from low-income families. This eliminates the major financial barrier to children being vaccinated. In 1999, over 2 million doses of vaccine were distributed. All recommended vaccines are available for eligible children. Incentives are provided for Medicaid managed care plans that have children appropriately immunized.

The Michigan Childhood Immunization Registry (MCIR) is a statewide registry of immunizations administered to children (infants to 20 years of age) that can be accessed by approved users anywhere in the state to reduce missed opportunities. In addition to maintaining an immunization record for each child, MCIR generates recall cards for children who have fallen behind on their immunizations. Providers and local health departments can generate profiles of the immunization levels in their clinic or community to determine if additional interventions should be developed. MCIR contains over 20 million shot records on more than 2 million children.

It is important for parents to receive accurate information about vaccines so they can make informed decisions about their children's health. Federal law mandates that Vaccine Information Statements must be given to the parent(s) to read prior to any immunization of their children. In

addition, the department produces informational pamphlets on immunization and specific vaccines. Information on new vaccines, vaccine schedules, appropriate storage, and handling of vaccines is made available to providers through newsletters, seminars, conferences, and video-conferences. Immunization field representatives work with local health departments to encourage immunization as part of maternal and child health services.

The goal of the Migrant Outreach and Immunization Services program is to assure that all migrant children (birth – 18 years) seen by five funded agencies, are age appropriately immunized, and that all immunizations (historical and newly administered) are entered into the Michigan Childhood Immunization Registry (MCIR). The funded agencies are Health Delivery Inc., InterCare Community Health Network, Northwest Michigan Health Services, Family Medical Center and Telamon Corporation. The delivery of immunization services, (assessment and/or vaccine administration), are provided in migrant clinics, daycare settings and satellite locations (migrant camp, etc.). In fiscal year (FY) 2001-2002, approximately 3,831 migrant children were assessed and/or immunized in the funded agencies. In FY 2002-2003, agencies project that 9,625 migrant children will be assessed and/or immunized.

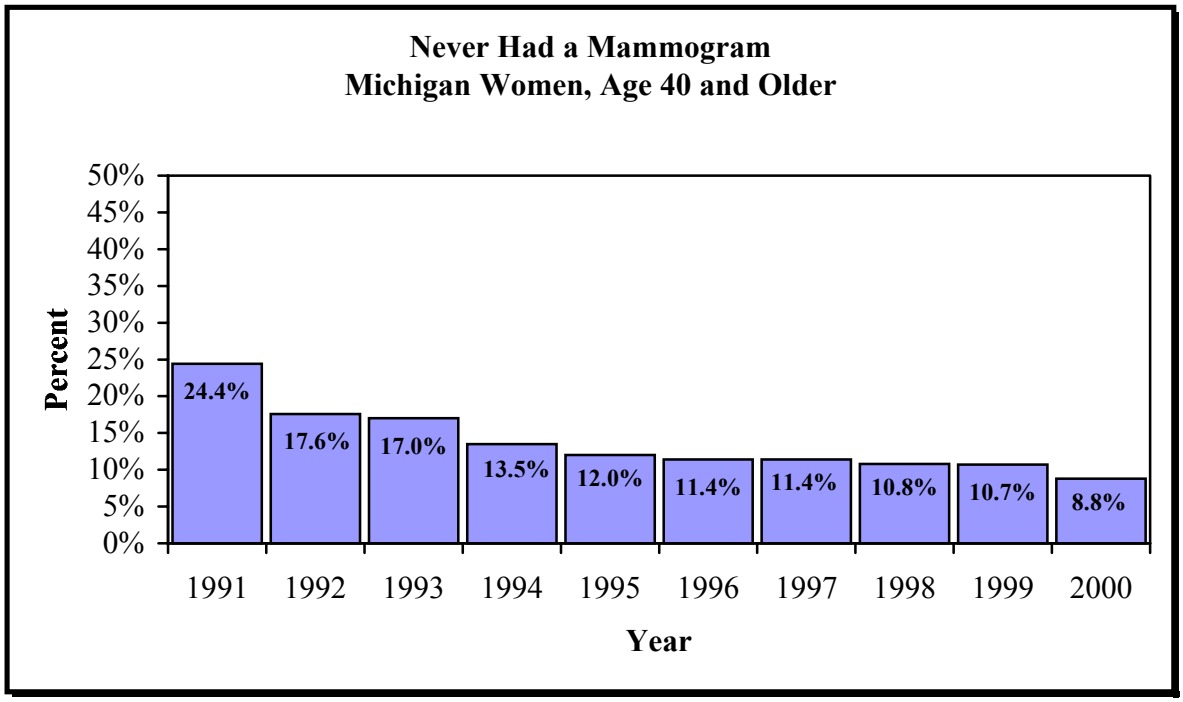
The department provides testing services for the diagnosis of many vaccine-preventable diseases. This is essential in assessing vaccine failure and disease control in unvaccinated populations.

Last Updated: August 2003

Focused Indicators

Preventive Health Care

Mammography



Source: Bureau of Epidemiology, MDCH

How are we doing?

Mammography is an examination of the breast by x-rays in order to detect tumors before they can be detected by some other means. Routine preventive health care against breast cancer includes an annual mammogram screening accompanied by a clinical breast examination for women over a particular age or women with specific risks factors. A screening program that includes mammography may reduce the likelihood of death due to breast cancer.

The 2000 Michigan Behavioral Risk Factor Survey (BRFS) indicates the proportion of women age 40 and older that reported never having had a mammogram has decreased from 24.4 percent in 1991 to 8.8 percent in 2000. Mammography can detect breast cancer an average of 1.7 years before it can be felt by clinical breast exam and, in most cases, survival increases with earlier detection.

How does Michigan compare to other states?

In 2000, the prevalence of women who had never had a mammogram in Michigan was 8.8 percent while the median among all the states was 11.9 percent.

How are different populations affected?

There was little difference in Michigan across racial, income and educational groups in the prevalence of women, aged 40 years and older, which have never had a mammogram. Mammography and clinical breast examination combined are more effective in detecting breast cancer than either examination alone. Nearly 42 percent of females aged 40 and older had not had a mammogram and clinical breast exam within the past year. This proportion tended to decrease with increasing educational and household income levels.

For more information about adult health risk behaviors, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Excluding skin cancer, breast cancer is the most common cancer among women in the United States. Women aged 20-39 years old should have a clinical breast examination every three years. After age 40, every woman should have an annual screening mammogram and clinical breast exam.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to increase the use of mammography screening along with other preventive techniques. Since 1991, the department has implemented a comprehensive Breast and Cervical Cancer Control Program (BCCCP), through a multi-year grant from the U.S. Centers for Disease Control and Prevention. Through this program, women who have breast and cervical cancer will be identified at earlier stages of these diseases, when treatment is less expensive and the survival rate is more favorable. Working together, medical providers and local health agencies can ensure that the highest quality breast and cervical cancer control services are available to all women in their communities. In 2002, the program served more than 22,000 low-income women. Over 178 breast cancers were diagnosed in these women. These women now are eligible for Medicaid, which provides all necessary treatment for the breast cancer. The Michigan Cancer Consortium (MCC) at *www.michigancancer.org* is a statewide public-private partnership of eighty organizations. It is implementing strategies to address its ten cancer control priorities, including breast, cervical, colorectal cancer, early detection, and tobacco control. One MCC priority is to improve breast cancer early detection.

The state Medicaid program also provides full coverage, consistent with the American Cancer Society guidelines, of both diagnostic and screening mammography services. In addition, the Medicaid program recently extended coverage for treatment of breast and cervical cancers detected through the BCCCP for women who otherwise have no medical coverage.

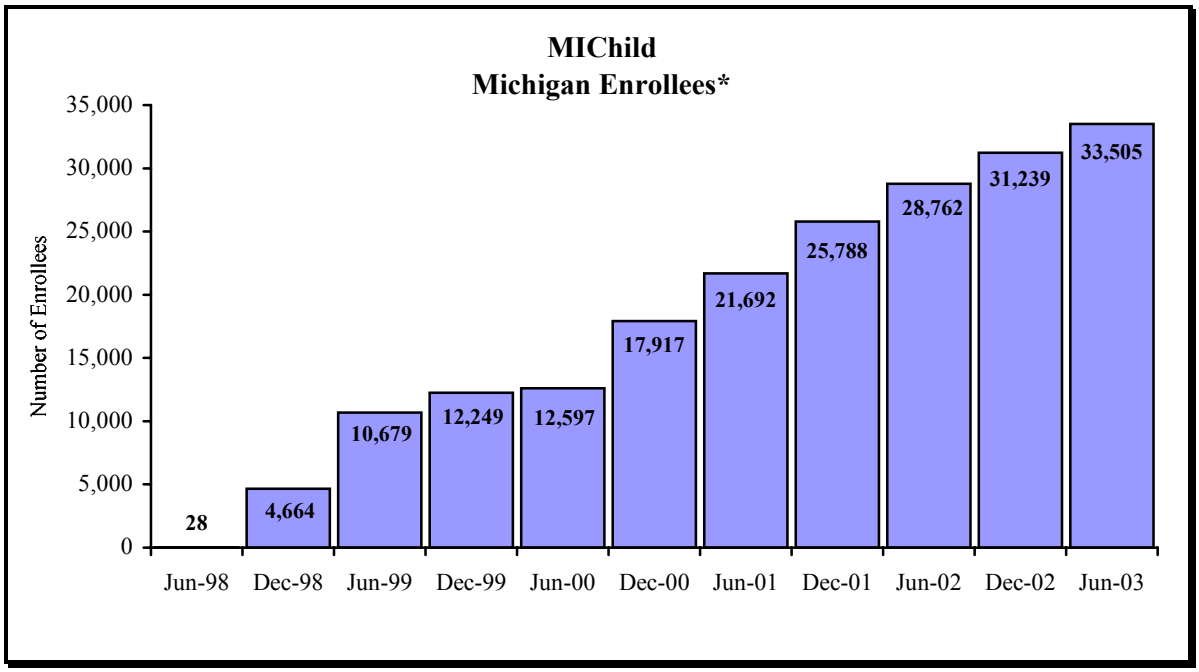
For more information about cancer control programs, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***

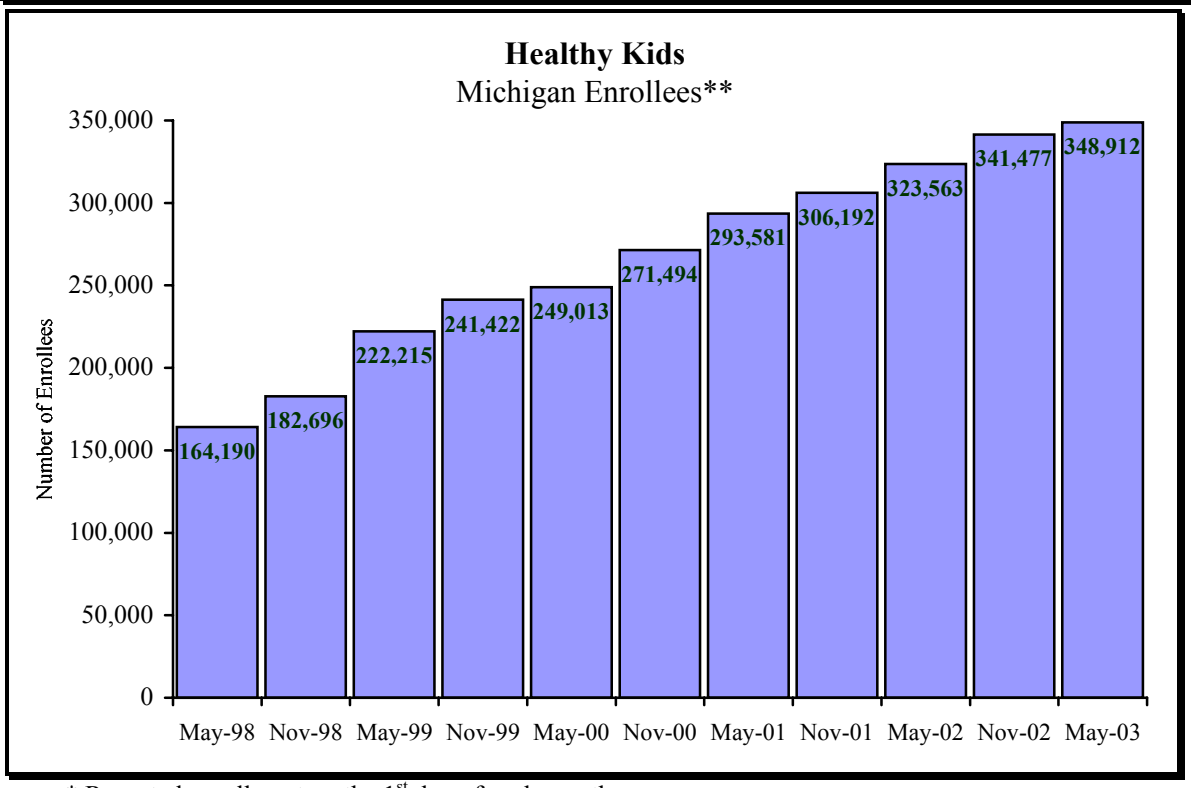
Last Updated: May 2003

Focused Indicators

Preventive Health Care

MIChild and Healthy Kids Enrollment





* Reported enrollment on the 1st day of each month
** Last day of month point in time report
Source: Policy and Legal Affairs, MDCH

How are we doing?

Michigan is a national leader in providing insurance for all age groups and ranks among the top ten states with the lowest number of uninsured children, according to the U.S. Census Bureau's Current Population Survey. Michigan's health insurance initiative, MIChild, provides health insurance to children of low and moderate-income families. Children under age 1 with family incomes between 185 percent and 200 percent of the federal poverty line, and children age 1 to 18 without health coverage and whose family income is between 150 and 200 percent of the federal poverty line are eligible under this initiative. The MIChild program, which started in May of 1998, provides Michigan children a comprehensive health plan for the modest cost of $5 per month per family. MIChild enrollment is coordinated with Healthy Kids enrollment and both programs share a single application.

Healthy Kids is Michigan's Medicaid program for children whose family income is below 150 percent of the federal poverty line. Along with the introduction of MIChild, the Healthy Kids program expanded eligibility for children ages 16 through 18 in families with incomes up to 150 percent of the federal poverty line. Children under the age of one and pregnant women with family incomes up to 185 percent of the federal poverty line are also covered.

This indicator measures the number of children enrolled in MIChild and Healthy Kids at a point in time each month who, in most cases, would otherwise not have a medical home and access to many health care services. Enrollment in MIChild and Healthy Kids has risen steadily. For MIChild, enrollment has risen from 28 children in June of 1998 to 33,505 in June 2003. For Healthy Kids, enrollment has risen from 164,190 to 348,921 children from May 1998 to May 2003.

How does Michigan compare to other states?

Michigan is one of the nation's forerunners in the federal State Children's Health Insurance Program (SCHIP). Based on a 1999 Urban Institute study of children without health insurance, Michigan has provided over 80 percent of these children with comprehensive health coverage. This was one of the highest rates in the country.

In addition, according to a 2000 National Academy for State Health Policy report, Michigan is:

- One of 6 states that has application process standards;
- One of 2 states that has standards for pending applications;
- One of 7 states that has standards for annual review;
- One of 4 states that has time frames for making initial contact with new enrollees;
- One of 3 states that has standards pertaining to transmission of enrollment data to the single state agency;
- One of 2 states that has a time frame for mailing materials to applicants; and
- One of 4 states that have a standard requirement for addressing the different aspects of grievance and complaint review.

How are different populations affected?

The department has very comprehensive outreach effort for the MIChild program. The combined Medicaid and MIChild application, pamphlets, and posters are currently in English, Arabic, and Spanish. The toll-free telephone lines (1-888-988-6300) for the program offer translation services for all languages as well. The department also provides preventive and primary health care to its dually eligible Children's Special Health Care Services (CSHCS) and MIChild enrollees. Eligible children may choose to enroll in one of the CSHCS's managed care programs that will also provide MIChild services or receive services on a fee-for-service basis. In addition, the department is very active in outreach to the Native American community. The department has trained many of the tribal centers in Medicaid and MIChild eligibility and has enrollment assistance workers at each tribal center.

What other information is important to know?

Children with a medical home are more likely to receive preventive services and health education, less likely to miss school because of illnesses, and less likely to use the emergency room. The focus of Healthy Kids is to provide Medicaid-eligible children of low-income families with a medical home and access to primary, preventive, and other health care. When the Michigan Legislature passed MIChild legislation, it included an expansion in the eligibility of Healthy Kids, as noted above, for the children of low-income families.

The focus of MIChild is to provide health insurance to uninsured children of working low-to-moderate income families that are otherwise ineligible for Medicaid. The program has also served as an outreach program guiding eligible families to the Medicaid program. As of June 1, 2003, there were 191,706 children transferred from MIChild to Healthy Kids.

Prior to the start of the MIChild initiative, the department estimated that 106,000 children were eligible for MIChild and Healthy Kids. The estimate for children eligible for MIChild was 34,000 children and for Healthy Kids 72,000 children. Due to changes in the overall economy and its effect on personal income and employment, rates of uninsurance among Michigan's children have undoubtedly risen since the original estimates were established. In 1999, the Urban Institute estimated that there were 136,000 uninsured children in Michigan. Because of this, Michigan continues to reach out to targeted low-income children.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the number of uninsured children through MIChild and Healthy Kids enrollment. Under the department's No Wrong Door policy, families complete a simple application that is widely available in a variety of settings, including the Family Independence Agency, local public health departments, WIC Clinics, schools, and churches. The single application allows a family to apply for either MIChild or Healthy Kids coverage.

The department has worked with local Multi-Purpose Collaborative Bodies in the development of locally driven, innovative outreach programs throughout the state. The outreach efforts

continue to target families with uninsured children and include use of mass media as well as distribution of information and materials through school systems and local organizations. The department has also offered widespread training assistance to community-based groups.

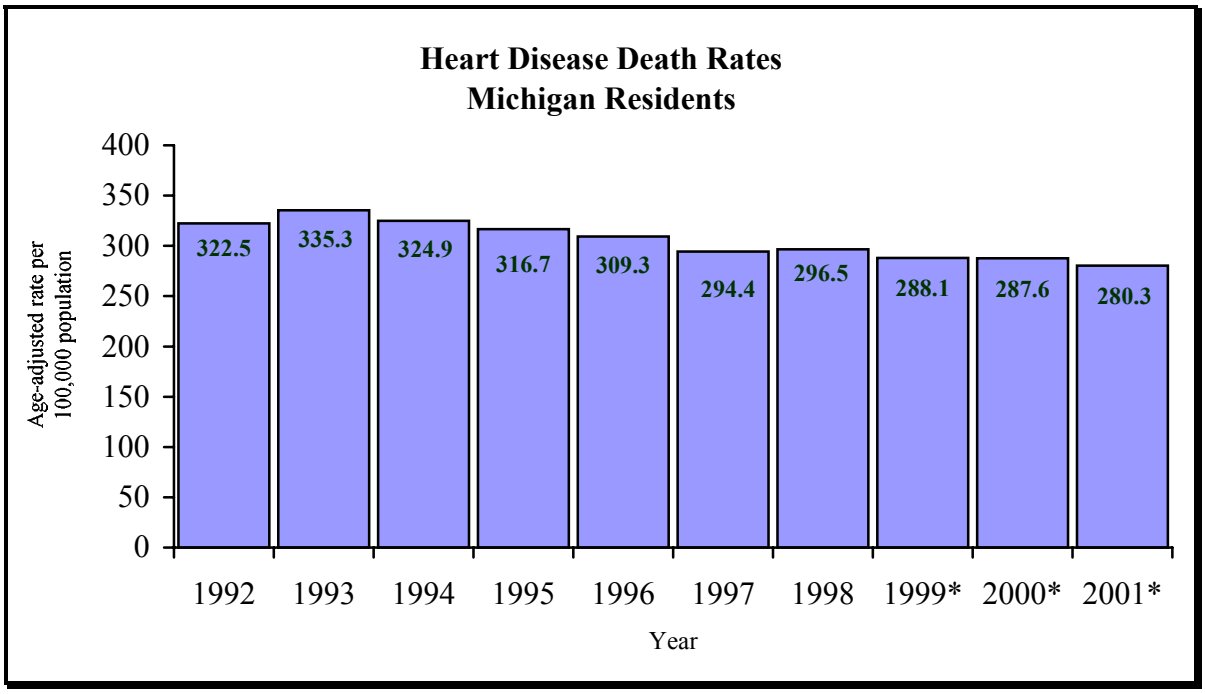
In August 2000, the department discontinued its requirement that families verify income when applying for MIChild and the Healthy Kids Program. This has resulted in over 90 percent of the applications being complete when the department MIChild contractor receives them. At the same time, the department has implemented a shortened re-determination form for its annual eligibility review. The family only needs to verify the information (or change it as appropriate), sign the form, and return it. As with the initial application, no verification of income is required.

The department has also used the WIC enrollment and Office of Child Support enrollment for outreach. Information on MIChild and Healthy Kids is sent to area schools every year. And the department has contacted community business organizations (small businesses, self-employed persons, etc.) for outreach efforts.

One other asset to the MIChild and Healthy Kids program is the co-location of Medicaid eligibility workers at the MIChild administrative site of business. This allows faster Medicaid determinations, better communication between the two programs, and more continuity of care for children transferring eligibility from one program to another.

Last updated: May 2003

Vital Statistics Indicators
Heart Disease Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Heart disease remains the leading cause of all deaths in Michigan and the second leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75. Heart disease also continues to be a major cause of disability in the United States and Michigan.

Coronary heart disease accounts for the largest proportion of heart disease, which is caused by diminished blood supply to the heart and usually results in a heart attack. In many cases, heart disease can be prevented by lifestyle changes, such as quitting smoking, improving dietary habits, or increasing physical activity.

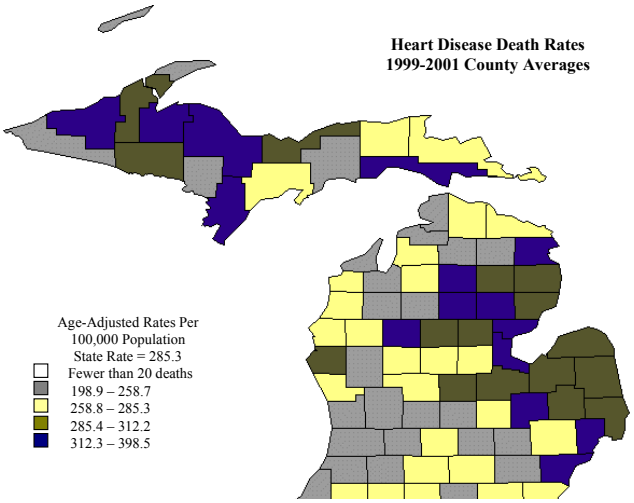
In 2001, there were 26,766 deaths due to heart disease in Michigan. The age-adjusted rate for heart disease deaths was 280.3 per 100,000 population. The age-adjusted heart disease death rate in Michigan has continued to decline during the past 10 years.

How does Michigan compare with the U.S.?

The heart disease death rate has been higher in Michigan than in the U.S. since the mid-1970s. Michigan's 2000 age-adjusted heart disease death rate of 287.6 was higher than the U.S. rate of 257.9. Heart disease was the leading cause of all deaths in the U.S. and the second leading cause of YPLL in 1999 and 1998, respectively.

How are different populations affected?

In 2001, nearly two-thirds (66.2 percent) of all deaths in Michigan due to heart disease occurred to individuals 75 years of age and older.



In general, men have higher rates of heart disease death than women. The age-adjusted heart disease death rate for men in Michigan was 355.2 deaths per 100,000 population compared to 228.1 for women in 2001. Rates were highest among African-American males, at 451.9 deaths per 100,000 population.

Disparities also exist between African Americans and whites in the United States and in Michigan. The age-adjusted heart disease death rate for African Americans in Michigan was 371.6 deaths per 100,000 population compared to 268.8 for whites.

For more state and local data on heart disease deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Smoking, physical inactivity, hypertension, obesity, and high blood cholesterol all contribute to the likelihood of developing heart disease. Other contributing risk factors include a family history of heart disease, age, gender, diabetes, and poor diet. Many studies have shown that the risk factors associated with heart disease can be reduced by early identification in conjunction with lifestyle changes and treatment.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the incidence and impact of heart disease through the support of programs to prevent and control cardiovascular risk factors, emphasizing physical activity, healthy eating and the reduction of health disparities; creating environments that support health behaviors in communities, schools, healthcare systems and worksites; and collaborating with healthcare providers to improve the quality of care provided to those at-risk for and with heart disease.

MDCH implements community programs to assist in improving blood pressure and cholesterol control, increasing physical activity, improving dietary patterns, and maintaining a healthy weight. Other activities include initiatives to increase awareness of signs, symptoms and appropriate responses to heart attacks; as well as to acknowledge the relationship between risk factors and development of heart disease.

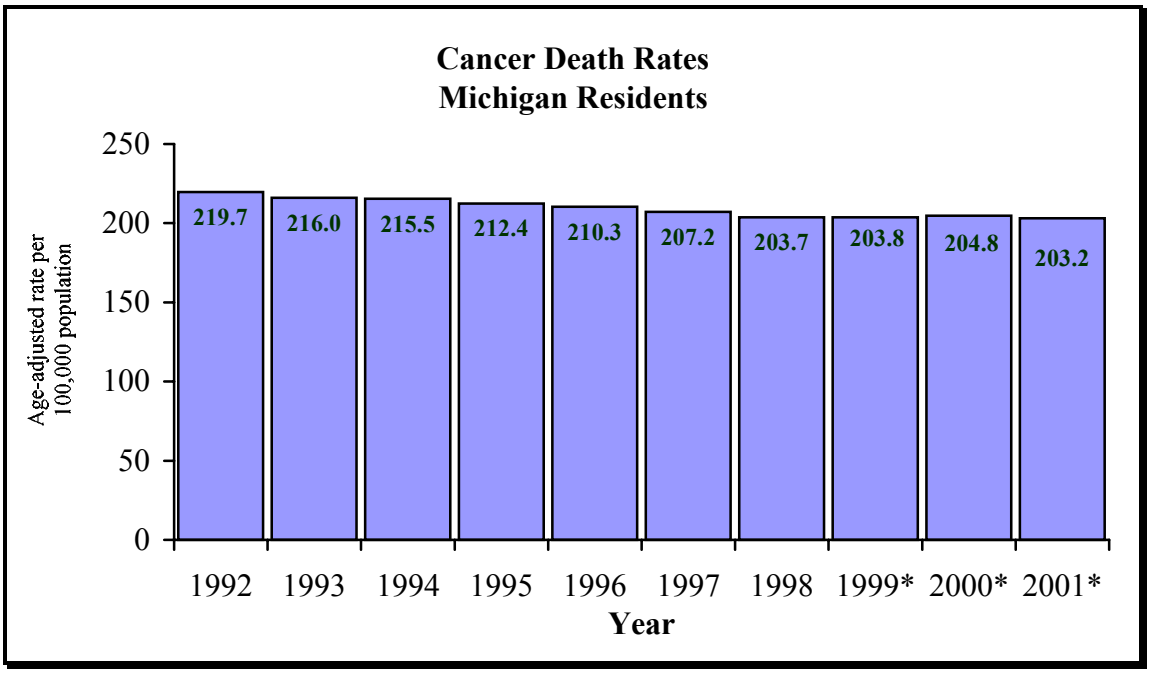
High risk groups including African American, Latino women, and elderly populations are reached through community agencies, faith-based organizations, and hair salons to implement healthy eating, physical activity and obesity prevention strategies tailored to their needs.

In addition, the 5 A Day for Better Health Program works with local communities to promote fruit and vegetable consumption in the context of a low fat, healthy diet. In cooperation with the Governor's Council on Physical Fitness and the Michigan Fitness Foundation, the department has sponsored the development and distribution of a model physical education curriculum for Michigan schools encouraging lifelong physical activity.

The WIC Division's Project FRESH Program provides access to Michigan-grown fruits and vegetables and nutrition education for low-income pregnant breastfeeding and postpartum women and children ages 1 through 5, who are at nutritional risk. Fresh fruits and vegetables contain vitamin A, vitamin C, and phytochemicals, which research suggests is a contributing factor in reducing the risk of heart disease.

Last Updated: May 2003

Vital Statistics Indicators
Cancer Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Cancer is the second leading cause of all deaths in Michigan and the leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75.

Cancer refers to more than 100 different diseases, each characterized by the uncontrolled growth and spread of abnormal cells. The most common cancers in Michigan are lung cancer, colorectal cancer, breast cancer, and prostate cancer. Cancer deaths can be reduced by changes in lifestyle, such as quitting smoking or improving diet.

In 2001, there were 19,608 deaths due to cancer in Michigan. The age-adjusted rate for cancer deaths was 203.2 per 100,000 population. The age-adjusted cancer death rate in Michigan has been declining since 1992.

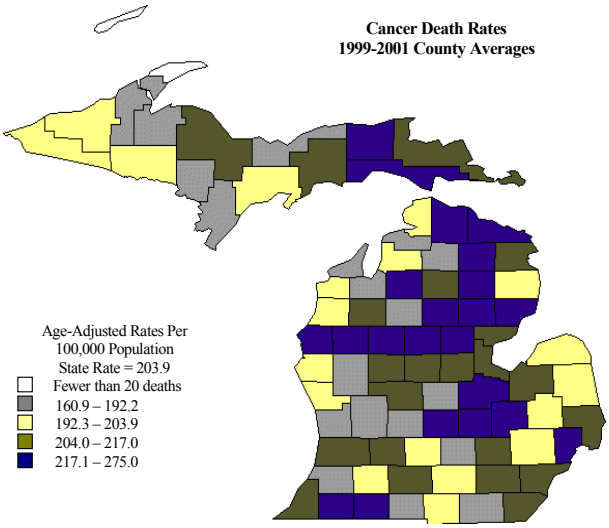
How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted cancer death rate of 204.8 was similar to the U.S. rate of 201.0. Cancer was the second leading cause of all deaths in the U.S. and the leading cause of YPLL in 1999 and 1998, respectively.

How are different populations affected?

In Michigan, 43 percent of cancer deaths occurred to individuals aged 75 or older in 2001. In the same year, individuals aged 50 to 74 years accounted for 49.2 percent of deaths due to cancer.

African-Americans had higher cancer death rates in 2001 than whites with rates of 242.5 and 198.4, respectively.



The cancer death rate for men was 50 percent higher than the rate for women (259.7 and 169.1, respectively). African-American men had the highest cancer death rate of 322.6.

For more state and local data on cancer deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Cigarette smoking is the leading preventable cause of cancer. Other risk factors include high-fat and low-fiber diets, sedentary lifestyles, and environmental factors such as radon exposure. Early detection, including mammograms, Pap smears, sigmoidoscopies, and digital rectal exams may lead to early treatment and increased survival. Some physicians believe that the Prostate Specific Antigen (PSA) test for men may also be helpful.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the incidence and impact of cancer. The department performs testing on a variety of biological and environmental specimens for cancer-related toxins such as PCBs and pesticides. The department focuses on five cancers of public health significance (breast, cervical, colorectal, lung and prostate). The department's Breast and Cervical Cancer Control program provides clinical breast exams and mammograms to screen for breast cancer and Pap smears to detect cervical cancer for low-income women. Information about the efficacy of screening protocols is also monitored and analyzed. Ongoing surveillance of trends in cancer incidence and mortality particularly for lung, breast, colon, and prostate are currently being conducted. Public and professional education programs concentrate on breast, cervical, and prostate cancers. The Michigan Cancer Consortium, a statewide public private partnership of eighty

organizations, is implementing strategies to address its ten cancer control priorities, including breast, cervical, colorectal cancer, early detections, and tobacco control.

In addition, the department is actively working to decrease the use of tobacco since smoking is a cause of certain types of cancer. Programs to reduce tobacco use focus on promoting strong public and voluntary policies that increase community awareness of the dangers associated with tobacco use and secondhand smoke; preventing the sale and promotion of tobacco to youth; and providing a statewide media campaign that contains prevention, cessation and secondhand smoke messages. Initiatives include providing Medicaid coverage for smoking cessation products, developing a telephone-based cessation support program for Medicaid patients, and offering self-help kits and tobacco related information. The department makes available training for health professionals and other service providers to recognize and treat nicotine addiction. Tobacco use prevention is also offered through Teen Health Centers/Alternative Models.

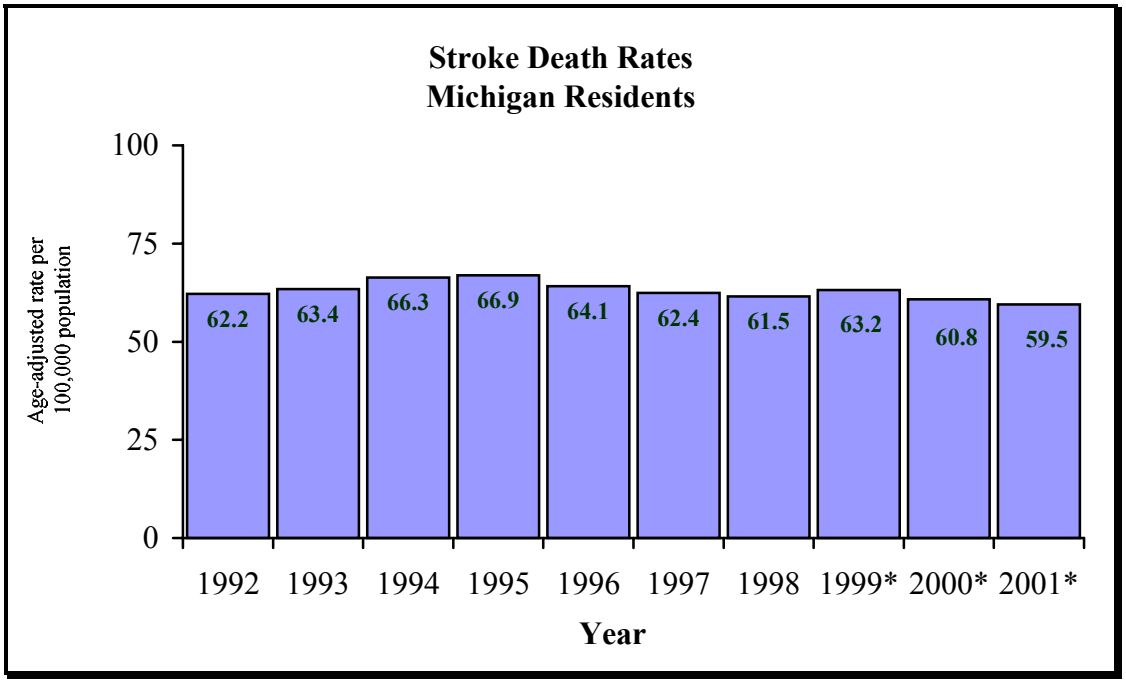
The WIC Division's Project FRESH Program provides access to Michigan-grown fruits and vegetables and nutrition education for low-income pregnant breastfeeding and postpartum women and children ages 1 through 5, who are at nutritional risk. Fresh fruits and vegetables contain vitamin A, vitamin C, and phytochemicals, which research suggests is a contributing factor in reducing the risk of cancer.

For more information on preventing and reducing the impact of cancer, please visit the Michigan Cancer Consortium website at www.michigancancer.org

Last Updated: May 2003.

Vital Statistics Indicators

Stroke Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Stroke is the third leading cause of all deaths in Michigan and the sixth leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75.

An artery hemorrhage or blockage in the brain causes a stroke. High blood pressure is the most important risk factor for stroke. Other risk factors include cigarette smoking, physical inactivity, high cholesterol, and obesity.

In 2001, there were 5,666 deaths due to stroke in Michigan. The age-adjusted death rate for stroke was 59.5 per 100,000 population. The age-adjusted stroke death rate in Michigan has been declining during the past 10 years.

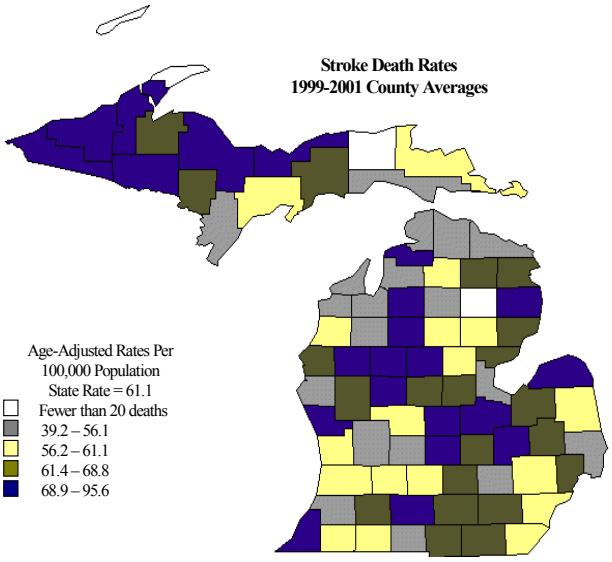
How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted rate of 60.8 was equivalent to the U.S. rate of 60.8. Stroke was the third leading cause of all deaths in the U.S. and the eighth leading cause of YPLL in 1999 and 1998, respectively.

How are different populations affected?

Incidence of strokes increases with age. In Michigan, 76 percent of stroke deaths occurred to individuals aged 75 or older in 2001.

Although males have a higher risk of dying of stroke than females, the number of females dying of stroke is larger than males, because women live to older ages when stroke is most common.



In 2001, African-Americans had higher stroke death rates (72.0) than whites (57.7). The age-adjusted stroke death rate for African-American males was 76.2.

For more state and local data on stroke deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Stroke remains the leading cause of severe long-term disability. Controlling high blood pressure, high cholesterol, and reducing smoking will have the greatest effect on reducing stroke related disabilities and deaths. Other risk factors for stroke include age, gender, family history, previous stroke, and socioeconomic status.

What is the Department of Community Health doing to affect this indicator?

The Michigan Department of Community Health initiated an advisory group called the Michigan Stroke Initiative (MSI) in 1997 to describe the burden of stroke in Michigan and develop recommendations for reducing the burden. MSI is represented by 40 different agencies statewide and has continued ongoing advisory functions and stimulated a number of projects. Collaboration with Michigan Association of Health Plans Foundation spurred the development and ongoing dissemination of an education program targeting patients and health professionals called "Taking on Stroke in Michigan." Three large professional conferences were offered on stroke topics and a fourth is planned for March 2004. MDCH collaborates with the American Stroke Association on projects such as Operation Stroke and Blood Pressure Sunday.

In addition, MDCH partners with Michigan State University on a federal grant to develop and refine methods and processes to conduct long-term surveillance of acute stroke care and stroke outcomes. Findings from the surveillance are linked to public health strategies and quality control initiative to improve stroke prevention, treatment, care and outcomes.

Three projects focusing on stroke were funded by MDCH in 2003 as a result of a competitive request for proposal (RFP) process. The Michigan Health and Hospital Association developed one project called, "Keystone for Stroke Care." Another project targets professional stroke training in a rural setting and a third is developing and delivering a model curriculum for Emergency Medical Services stroke education.

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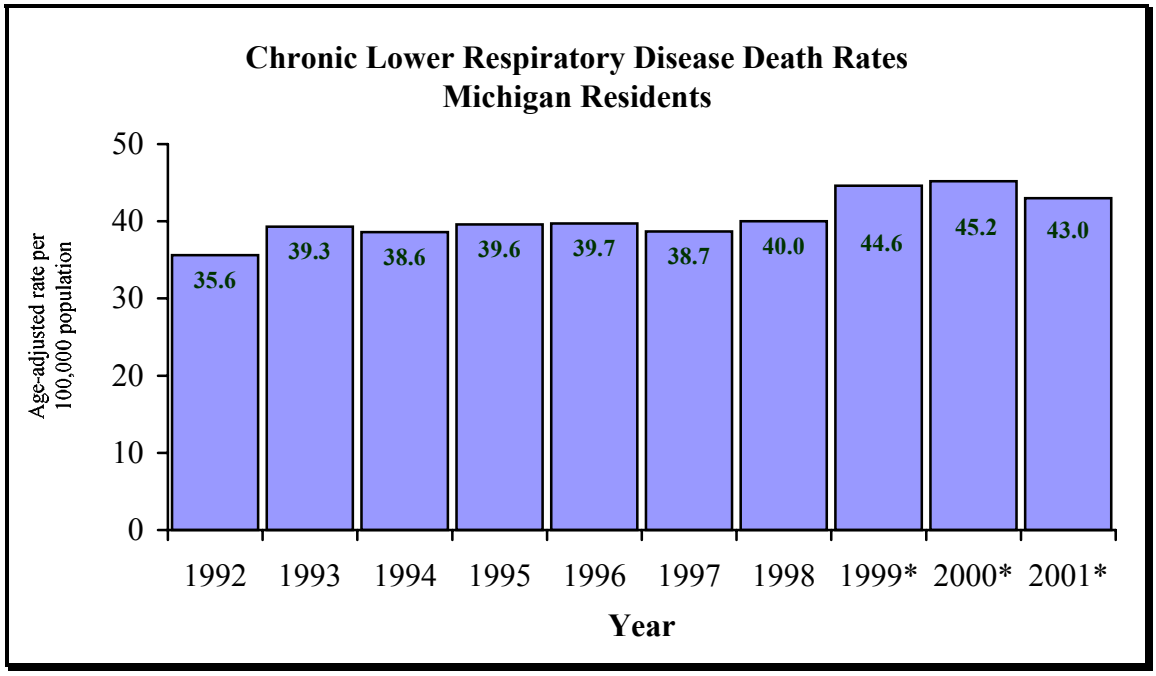
Vital Statistics Indicators

Chronic Lower Respiratory Disease Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Chronic lower respiratory disease (CLRD) is the fourth leading cause of all deaths in Michigan and the seventh leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75. In 1999, with the change to ICD-10 coding, CLRD experience 5% more deaths than in the 9th revision (ICD-9) coding. This may account for the increase rate of death caused by CLRD beginning during 1999.

CLRD is comprised of many conditions such as emphysema and chronic bronchitis. In emphysema, the small air sacs in the lung (called alveoli) are destroyed. With bronchitis, the lining of the airways that lead to the lungs becomes irritated, inflamed, and swollen. CLRD deaths can be reduced by changes in lifestyle, such as quitting smoking.

In 2001, there were 4,133 deaths due to chronic lower respiratory diseases in Michigan. The age-adjusted rate for CLRD deaths was 43.0 per 100,000 population.

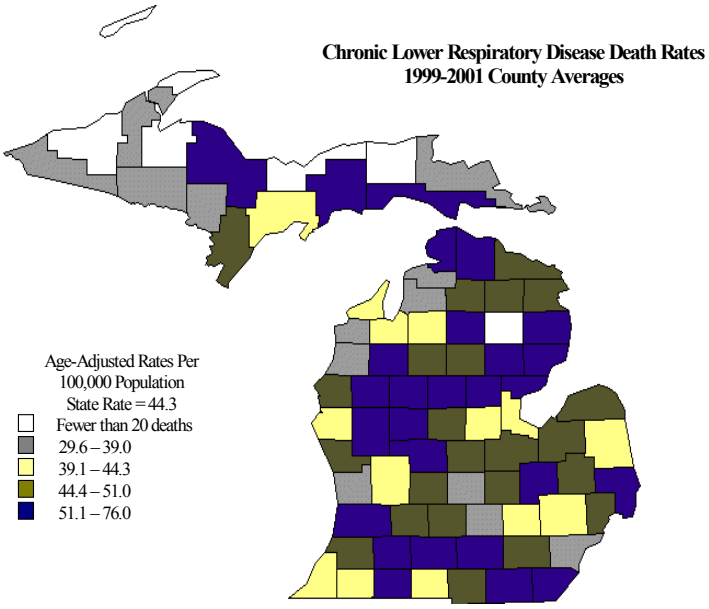
How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted death rate of 45.2 was similar to the U.S. rate of 44.3. CLRD was the fourth leading cause of all deaths in the U.S. and the tenth leading cause of YPLL in 1999.

How are different populations affected?

CLRD occurs most often in older people. In Michigan, 60 percent of CLRD deaths occurred to individuals aged 75 or older in 2001.

Men are also more likely to die of CLRD than women. In 2001, the age-adjusted rate was 55.9 for men and 35.9 for women. The difference between men and women is becoming less pronounced. This may be related to changing patterns of smoking.



The age-adjusted rate of death from CLRD is generally higher for whites than for African-Americans. In 2001, the rate for whites in Michigan was 44.4, while the African-American rate was 30.4.

What other information is important to know?

It is estimated that smoking is responsible for more than 80 percent of all chronic lower respiratory disease. Most, but not all, patients with CLRD have a history of smoking. Other factors can include continual exposure to dust, fumes or gases that can be found in the workplace. The first symptom of emphysema is usually shortness of breath. An individual is considered to have chronic bronchitis if they have a cough that produces mucus most days for at least 6 months in one year, or three months in each of two consecutive years.

What is the Department of Community Health doing to affect this indicator?

As smoking is a major cause of CLRD, the department is actively working to decrease the use of tobacco. Programs to reduce tobacco use include: promoting strong public and voluntary policies to increase the awareness of the dangers of tobacco use and secondhand smoke; to prevent the sale and promotion of tobacco to youth; and to provide a statewide media campaign with prevention, cessation, and secondhand smoke messages.

Tobacco program initiatives include offering free self-help cessation kits, expectant mother quit kits, and tobacco-related information. One statewide project focuses on promoting quit smoking programs and follow-up on program participants. Legal assistance is offered to businesses and individuals regarding smoke-free policy development along with research and information on tobacco-related

laws. The legal project also promotes and assists municipalities and counties in developing smoke-free policies. A statewide task force was developed to assist communities with clean indoor air regulation/ordinance development. The task force was instrumental in the passage of the recent Ingham County and Washtenaw County smoke-free business regulations. Additionally, the Prenatal Smoking Cessation Program is designed to train and support prenatal care providers and staff to assess the stages of readiness to quit in pregnant women. The model delivers positive, clear, concise, and consistent messages direct to the women's stage of readiness to quit.

Many agencies serving communities of color are funded to educate their communities about the dangers of tobacco use and secondhand smoke and to promote smoke-free public places and businesses. A new faith-based initiative is also being piloted this year. Cultural resource networks provide culturally and linguistically appropriate tobacco-related materials for the five principle minority groups in the state of Michigan. The network is also actively promoting smoke-free homes. A CDC funded disparities pilot project has created a statewide strategic plan to reduce tobacco-related disparities in Michigan. The plan will be marketed to other organizations in the coming year.

A network of 60 local tobacco reduction coalitions focus on raising awareness of tobacco issues, mobilizing communities to support tobacco free policies and decrease the social acceptability of smoking.

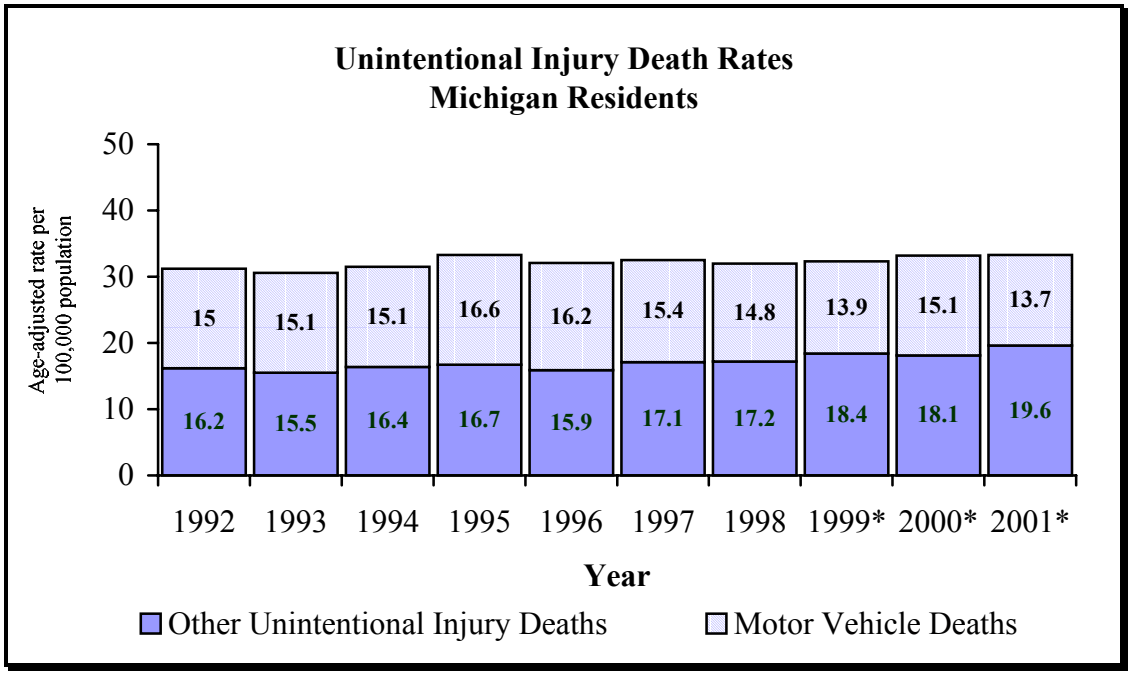
Efforts are also underway to initiate a statewide cessation quit-line pilot project.

For more information about adult health risk behaviors and/or tobacco control efforts and more state and local data on chronic lower respiratory disease deaths, visit the Michigan Department of Community Health website at ***www.michigan.gov/mdch***.

Last Updated: May 2003

Vital Statistics Indicators

Unintentional Injury Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Unintentional injuries are the fifth leading cause of all deaths in Michigan and the third leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75.

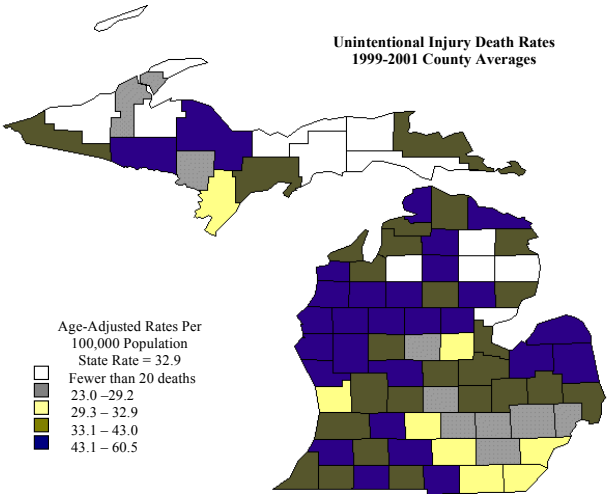
Motor vehicle crashes are the most common cause of unintentional injuries deaths, representing 42 percent of all unintentional injury deaths. The trend for motor vehicle deaths has improved slightly since 1992. The introduction of advanced safety equipment in cars, combined with stricter laws regarding use of seatbelts and child restraints, and drinking and driving, has pushed the trend downward since the late 1970s.

In 2001, there were 3,248 deaths due to all unintentional injuries in Michigan. The age-adjusted unintentional injury death rate was 33.3 per 100,000 population, and reflects a relatively stable trend to unintentional injury deaths.

How does Michigan compare with the U.S.?

The unintentional injury death rate for Michigan has been consistently lower than the U.S. rate. Michigan's 2000 age-adjusted death rate of 33.2 was lower than the U.S. rate of 35.5. Unintentional injuries were the fifth leading cause of all deaths in the U.S. and the third leading cause of YPLL in 1999.

How are different populations affected?



Unintentional injuries were the leading cause of death to Michigan residents who are at least one year old but under age 35. Unintentional injuries due to fires, motor vehicle crashes, drowning, and poisonings account for more than 40 percent of all deaths in the U.S. for youth aged 15 to 24 and for nearly a fifth of all deaths for those aged 25 to 44.

Men are more than twice as likely as women to die of unintentional injuries. In 2001, the Michigan age-adjusted unintentional injury death rate was 46.8 for men and 21.7 for women. The rate for African-American men was the highest at 55.0.

Unintentional injury-related deaths disproportionately affect African-Americans. The Michigan 2001 age-adjusted rate for African-Americans was 39.8 compared to 32.3 for whites.

For more state and local data on unintentional injury deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Unintentional injury deaths are caused from a wide range of circumstances such as motor vehicle crashes, falls, fires, suffocation, and drowning. For every unintentional injury resulting in death there are almost 10 that require hospitalization. Often severe injuries can result in long-term physical and mental impairments. Increasing use of safety equipment and reducing behaviors that impair individual response capabilities, such as reckless driving or alcohol consumption, can help prevent many types of unintentional injury.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the incidence and burden of unintentional injuries by providing leadership, training, public education, data collection and analysis, funding support and technical assistance related to the leading causes of injuries.

Central to this mission is the full implementation of the Michigan Plan for Injury Prevention. The plan has been finalized based on input from the Michigan Injury Prevention Task Force and was submitted for departmental approval in June 2003. The draft strategic plan contains

recommendations to build the core capacity of the state injury program as well as impact the top four priority causes of injury in Michigan (motor vehicle crashes, firearms, falls and poisoning).

The department coordinates distribution of child safety seats, bicycle helmets, and safety education materials throughout the state, with a focus on at-risk populations such as rural, non-English speaking, minority, and low-income families. The department also offers training to certify child passenger safety technicians so that they can conduct child safety seat inspections. To increase booster seat use, the department conducts a public education campaign with two radio public service announcements and brochures available through the MDCH Clearinghouse. The department is working with hospitals that deliver newborns to provide training and car seats as incentives for hospitals to establish or strengthen policies for discharging infants in car seats.

The National SAFE KIDS Campaign is a nationwide initiative to prevent childhood injury with local coalitions and chapters in every state. MDCH is the lead agency for Michigan Safe Kids. Local firefighters, medical and health professionals, law enforcement officers, educators, parents and other child safety advocates conduct activities designed to teach parents, caregivers and kids how to prevent unintentional injuries. Currently, SAFE KIDS coalitions and chapters are located in counties that account for over 90% of the state's population. There are 40 SAFE KIDS groups throughout the state that address the major risk areas for children (motor vehicle crashes, bicycle-related injuries, pedestrian injuries, residential fires, drowning, scald burns, poisoning, choking and falls).

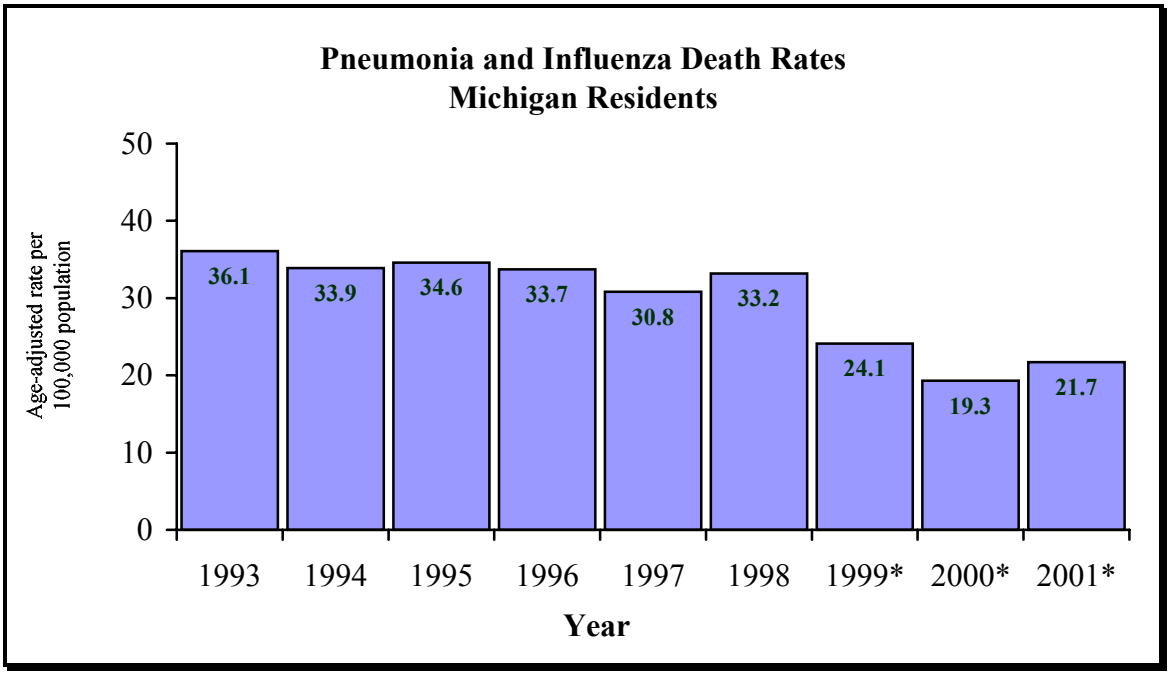
The department is pilot testing hospital-based geriatric fall prevention clinics for persons aged 65 and older. The clinics offer comprehensive risk assessments and multi-factorial interventions to reduce fall risk factors in older adults.

The department compiles fatality, hospitalization and emergency department data on injuries to determine the magnitude of the problem, describe the characteristics of the populations at risk, and determine causes of injuries so that prevention programming can be effectively targeted. Several data reports have been prepared and distributed throughout the state.

Last Updated: May 2003

Vital Statistics Indicators

Pneumonia and Influenza Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Pneumonia and influenza is the seventh leading cause of all deaths in Michigan and the tenth leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75. Michigan saw a decrease in the rate of pneumonia and influenza deaths as of 1999 due to a coding change from the use of ICD-9 codes to ICD-10 codes (see Appendix B).

Pneumonia is an inflammation of the lungs due to infection. Influenza is an infection of the respiratory tract that causes fever, muscle ache, and weakness. Pneumonia and influenza rank in the top 10 leading causes of death primarily because they are common complication of any serious illness. This indicator reflects a need to increase the use of preventive vaccines, as well as to reduce barriers to health care access.

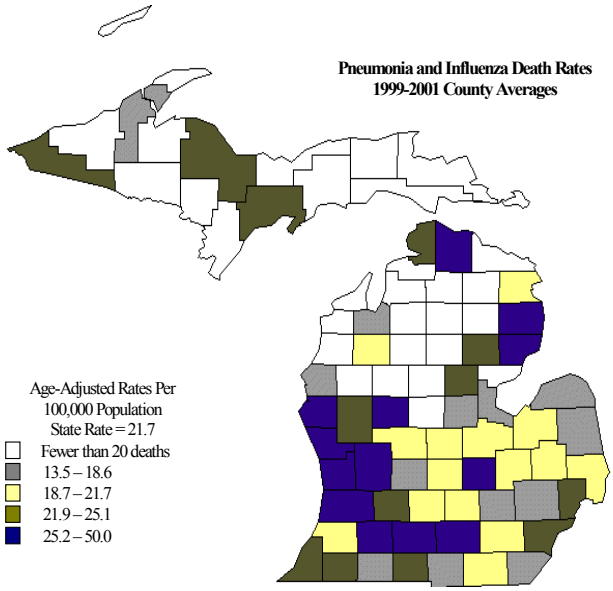
In 2001, there were 2,064 deaths due to pneumonia and influenza in Michigan. The age-adjusted rate for pneumonia and influenza deaths was 21.7 per 100,000 population.

How does Michigan compare with the U.S.?

The age-adjusted pneumonia and influenza death rates for Michigan and the U.S. have remained close for many years. Michigan's 2000 age-adjusted death rate of 19.3 was lower than the U.S. rate of 23.7. Pneumonia and influenza was the seventh leading cause of all deaths in the U.S. and the thirteenth leading cause of YPLL in 1999.

How are different populations affected?

The very young and the elderly are at higher risk of dying from pneumonia and influenza. In Michigan, 74 percent of pneumonia and influenza deaths occurred in individuals aged 75 or older in 2001. Pneumonia and influenza is the sixth leading cause of death for this age group.



The 2001 age-adjusted death rate for African-Americans (27.8) was about 33 percent higher than the rate for whites (20.9). The age-adjusted death rate for men was 28.1 and 18.2 for women.

For more state and local data on pneumonia and influenza deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Virus-infected droplets coughed or sneezed into the air, spread influenza. It usually occurs in small outbreaks, but every few years, epidemics arise. Outbreaks tend to occur in winter and generally spread rapidly through schools and institutions for the elderly.

People aged 65 and older should be vaccinated against influenza every year and against pneumonia at least once. The 2001 Michigan Behavioral Risk Factor Survey indicates that 60.1 percent of persons over 64 years of age had a flu shot within the past year and 58.1 percent had ever had a pneumonia vaccination.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the incidence and impact of pneumonia and influenza. With departmental assistance, 98% of all local health departments in Michigan administer flu vaccines and 96% of them administer pneumonia vaccines. Adult Immunization Record cards are provided to local health departments and private providers to help patients keep track of their immunizations.

Preventive measures include distribution of an educational brochure addressing adult immunization. Efforts are directed to those with diabetes, seniors and other high-risk groups, as well as their

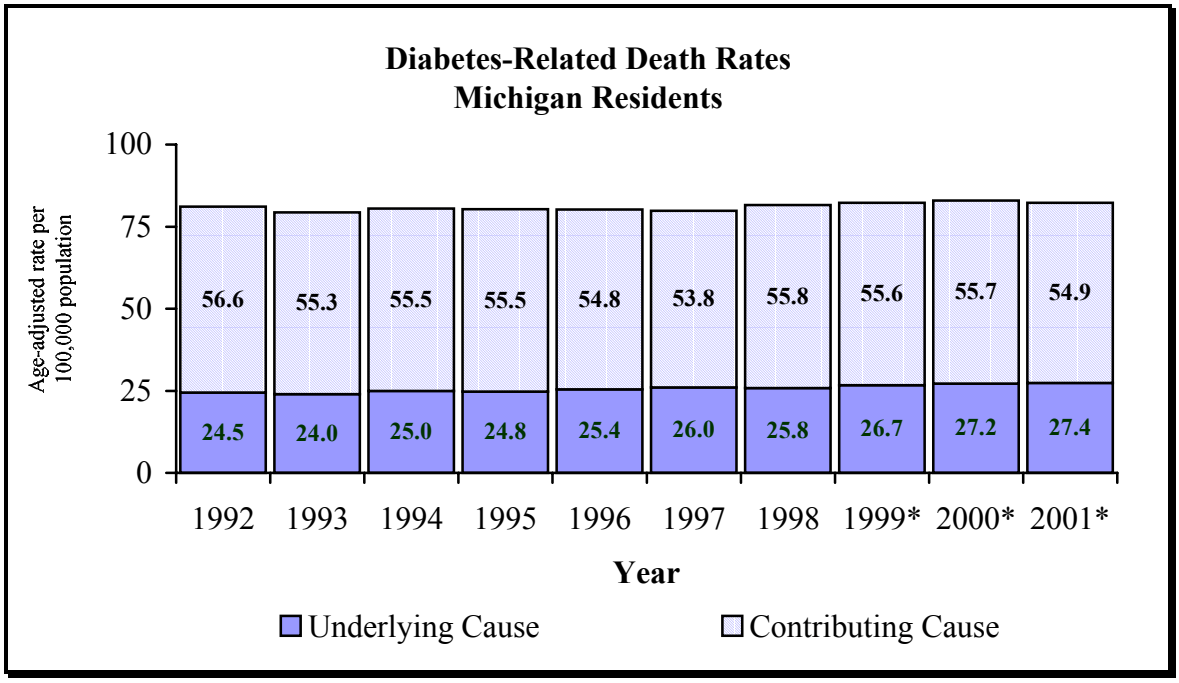
physicians. The department also works with Area Agencies on Aging and senior centers throughout the state to conduct regular informational sessions on the importance of flu vaccination.

The department conducts influenza surveillance each year through a statewide network of physicians and clinical laboratories. Information about the type, frequency, and severity of illness is helpful to physicians who need to make preventive and therapeutic treatment decisions for their patients. Local health departments receive assistance from department staff in the epidemiological investigation of unusually large or severe outbreaks of influenza in health care facilities or the community.

Last Updated: May 2003.

Vital Statistics Indicators

Diabetes-Related Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Diabetes deaths, as an underlying cause, is the sixth leading cause of all deaths in Michigan and the ninth leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75. There are two ways to measure diabetes deaths: 1) diabetes underlying cause deaths that are based on the number of deaths with diabetes listed as an underlying cause on the death certificate, and 2) diabetes-related deaths which are based on the number of deaths with diabetes listed as an underlying cause *plus* deaths which list diabetes as a contributing cause or other significant condition.

Diabetes is a chronic disease characterized by high glucose levels due to reduced levels of insulin produced by the pancreas or the body's inability to use insulin. It is associated with increased risk of heart attack, blindness, birth defects, amputation, and kidney failure.

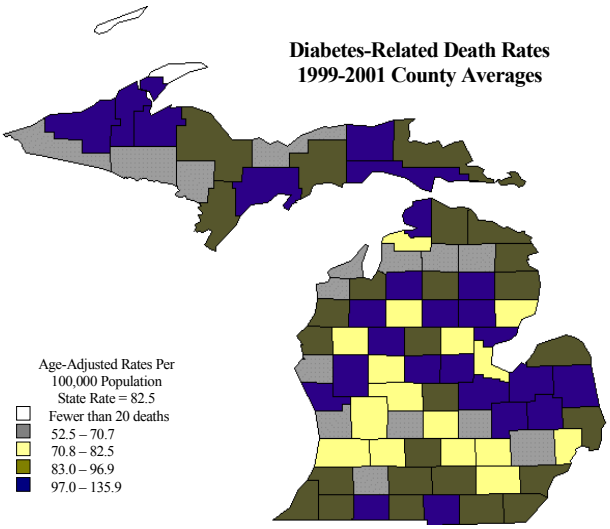
In 2001, there were 2,640 deaths due to diabetes as an underlying cause and an additional 5,269 deaths in which diabetes was a contributing factor for a total of 7,909 *diabetes-related* deaths to Michigan residents. The age-adjusted rate for diabetes-related deaths was 82.3 per 100,000 population. Diabetes-related death rates have been increasing during the past 10 years.

How does Michigan compare with the U.S.?

Michigan's 2001 age-adjusted rate for diabetes deaths of 27.4 was higher than the U.S. preliminary rate of 25.2, and reflects deaths due to diabetes when the disease is listed as an underlying cause of death. Diabetes was the sixth leading cause of all deaths in the U.S. and the eleventh leading cause of YPLL in 1999.

How are different populations affected?

Diabetes is more common in older people. In 2001, 55 percent of Michigan's diabetes-related deaths occurred to individuals aged 75 or older.



Diabetes is also more common among African-Americans when compared to whites. In 2001, the age-adjusted diabetes-related death rates for Michigan's African-American men and women were 127.2 and 116.3 respectively, compared with 96.6 and 64.2 for white men and women.

For more state and local data on diabetes related deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

There are three common types of diabetes: Type 1, Type 2 and gestational diabetes. Type 1 diabetes is an autoimmune disease and generally develops in children and young adults although it can appear at any age. Symptoms included excessive thirst and urination, constant hunger, weight loss, blurred vision and fatigue and may occur rapidly necessitating a physician visit or emergency room visit.

Type 2 diabetes accounts for approximately 90% of people with diabetes. It is associated with the inability of the body cells to use insulin effectively. It usually has a gradual onset and occurs mainly in people over the age of 30, most of who are overweight. Symptoms are similar to type 1 diabetes but develop more slowly.

Gestational diabetes develops or is discovered during pregnancy. It generally disappears when the pregnancy is over, but women who had gestational diabetes are at greater risk of developing type 2 diabetes later in life.

What is the Department of Community Health doing to affect this indicator?

The department is actively working to decrease the prevalence and impact of diabetes on the citizens in Michigan. The Michigan Diabetes Prevention and Control Program (MDPCP) funds programs and projects to improve the availability and delivery of diabetes services and develop prevention and control initiatives to assist in delaying and/or preventing the development of diabetes and its complications. Some of the major projects include:

The Michigan Diabetes Outreach Network (there are six (6) Diabetes Outreach Networks that cover the entire State of Michigan) effects change by working with health care providers through the Diabetes Care Improvement Project, conducting professional education activities, and participation in consumer awareness and advocacy initiatives.

The State Certification for Diabetes Self-Management Education Programs assures that programs adhere to national and state standards for self-management education programs. Currently there are 77 programs, which provide self-management education to over 18,000 people annually.

The MDPCP continues to partner with the Michigan Association of Health Plans in implementation of the "Taking On Diabetes In Michigan Initiative." This initiative promotes the use of diabetes standards of care and clinical guidelines for health care providers in managed care.

Joining People with Diabetes is a statewide initiative that provides support group leader trainings in establishing regional diabetes support networks. The group also provides current information about the availability of support groups in the state.

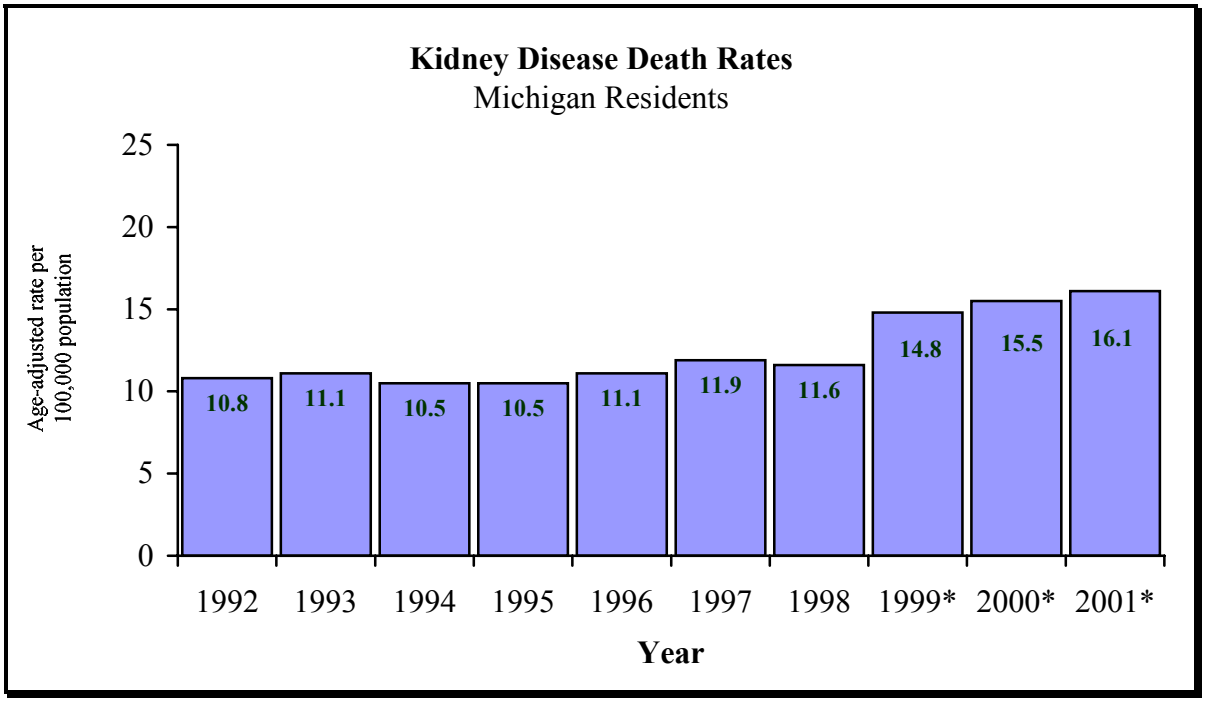
There is collaboration with national agencies such as CDC to implement CDC campaigns such as Flu/Pneumococcal initiative, National Diabetes Education Program, Diabetes Collaborative Project and others.

The WIC Division's Project FRESH Program provides access to Michigan-grown fruits and vegetables and nutrition education for low-income pregnant breastfeeding and postpartum women and children ages 1 through 5, who are at nutritional risk. Fresh fruits and vegetables contain vitamin A, vitamin C, and phytochemicals, which research suggests is a contributing factor in reducing the risk of diabetes.

Last Updated: May 2003

Vital Statistics Indicators

Kidney Disease Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Kidney disease is the eighth leading cause of death in Michigan. Michigan saw an increase in the rate of kidney disease deaths as of 1999 due to a coding change from the use of ICD-9 codes to ICD-10 codes (see Appendix B).

Kidney disease alters the ability of the kidneys to remove excess fluid and waste products from the body. The two most common causes of kidney disease are diabetes and high blood pressure. End-stage renal disease (ESRD) is the total or near total loss of kidney function. Patients with ESRD must undergo dialysis or transplantation to stay alive. The progression of kidney disease may be delayed or prevented with proper treatment and diet.

In 2001, there were 1,538 deaths due to kidney disease in Michigan. The age-adjusted rate for kidney disease deaths was 16.1 per 100,000 population. Kidney disease deaths moved into the top 10 leading causes of death in 1996.

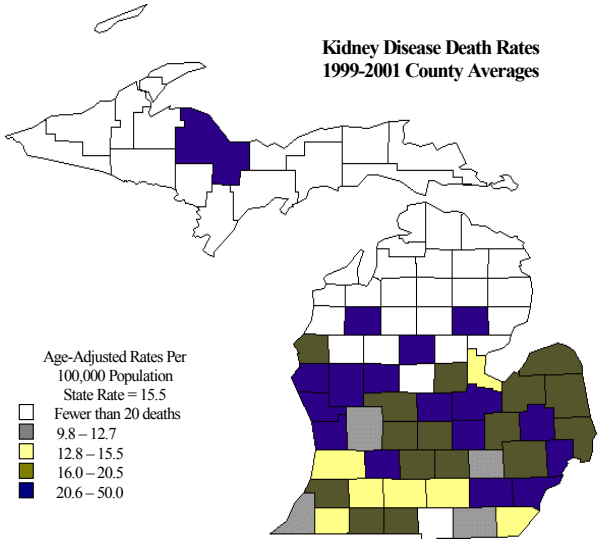
How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted death rate of 15.5 was similar to the U.S. rate of 13.5. Kidney disease was the ninth leading cause of death in the U.S. in 2000.

How are different populations affected?

African-Americans are more than twice as likely to die of kidney disease as whites. In 2001, the age-adjusted rate for African-Americans in Michigan was 30.2 compared to 14.3 for whites.

Men are more likely to die of kidney disease than women. The Michigan age-adjusted death rate was 20.8 for men and 13.8 for women.



For more state and local data on kidney disease deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

U.S. data for 1999 indicated that 424,179 people had ESRD and 66,964 patients being treated for ESRD died in 1999. The five-year survival rate is about three times higher for transplant patients than for dialysis patients. At the end of 2001, there were 50,305 patients waiting for kidney transplants and 2,486 waiting for kidney and pancreas transplants in the U.S.

At the end of 2000, there were 9,640 people on dialysis in Michigan, 2,356 of whom died. In addition to the people on dialysis, another 4,078 people had a working kidney transplant, and an additional 1,659 people were waiting for a kidney transplant. The estimated cost for kidney transplant and dialysis for all people with ESRD in Michigan is $600 million.

What is the Department of Community Health doing to affect this indicator?

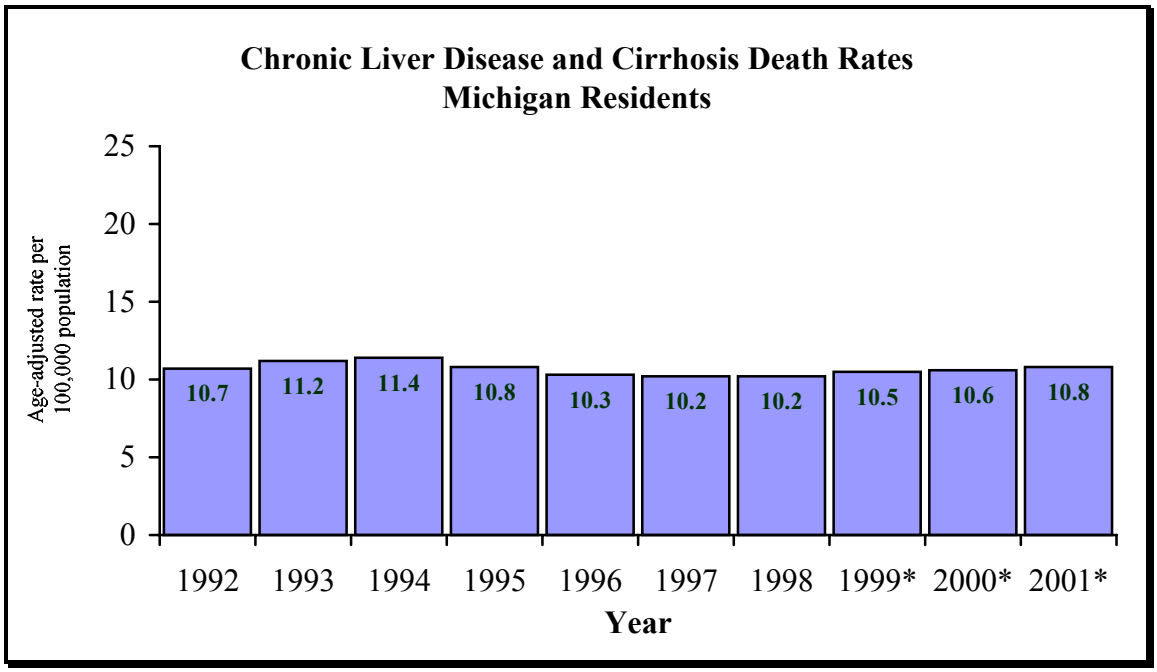
The department, in partnership with the National Kidney Foundation of Michigan (NKFM), is actively working to reduce kidney disease. In FY 2001-2002 the NKFM provided public education on diabetes and kidney disease to over 1,000 high-risk clients, including African American, Hispanics and Native Americans in targeted trainings throughout Michigan. Other projects results include: (1) 98,734 high school students were educated on diabetes, high blood pressure, and kidney disease through the KICK (*Kids Interested in the Care of their Kidneys)* program; (2) 27,986 students in four suburban Detroit elementary schools (grades 4-6) participated in a pilot-testing of *Kids and Kidneys*, a program to teach students the role of a healthy lifestyle in the care of their kidneys; and (3) 213 people at high risk for diabetes and kidney disease received kidney screenings, with follow-up conducted for those with abnormal results. The *Healthy Hair Starts with a Health Body* campaigns conducted from1999 through September 2002, trained 230 stylists from more than

150 salons. During that timeframe, 17 campaigns were conducted in Detroit, Grand Rapids, Lansing, Flint and Southfield. Collectively, more than 6,600 African American salon clients have been reached. More than 1/3 of the recipients made tangible changes toward improved lifestyles or seeking appropriate medical care. More than ninety individuals were identified with immediate life threatening conditions and referred for follow-up to their physician.

Last Updated: May 2003.

Vital Statistics Indicators

Chronic Liver Disease and Cirrhosis Deaths



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Chronic liver disease and cirrhosis are the eighth leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75 in Michigan and the ninth leading cause of death in Michigan during 2001.

The most common cause of liver disease is excessive consumption of alcohol. Alcohol-related disorders, which include alcoholic hepatitis and cirrhosis, outnumber all other types of liver disorders by at least five to one.

In 2001, there were 1,054 deaths due to chronic liver disease and cirrhosis in Michigan. The age-adjusted chronic liver disease and cirrhosis death rate was 10.8 per 100,000 population. The rate of Chronic Liver Disease and Cirrhosis Deaths has improved over the past ten years.

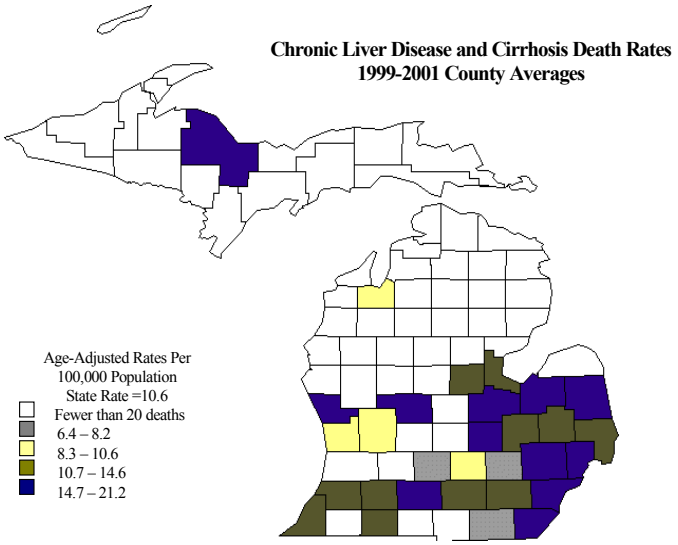
How does Michigan compare with the U.S.?

The chronic liver disease and cirrhosis death rate has historically been higher in Michigan than in the U.S., but the difference is narrowing. Michigan's 2000 age-adjusted rate of 10.6 was similar to the U.S. preliminary rate of 9.6. Chronic liver disease and cirrhosis was the twelfth leading cause of all deaths and of YPLL in the U.S.

How are different populations affected?

Men are more than twice as likely to die of chronic liver disease and cirrhosis as women. The Michigan age-adjusted death rate was 14.8 for men and 7.3 for women during 2001.

In the same year, chronic liver disease and cirrhosis death rates for African-Americans are 36 percent greater than for whites. The age-adjusted rate for African-Americans in Michigan was 14.1 compared to 10.4 for whites.



For more state and local data on chronic liver disease and cirrhosis deaths, visit the Michigan Department of Community Health website at ***www.michigan.gov/mdch***.

What other information is important to know?

Eliminating alcohol abuse could prevent an estimated 75 to 80 percent of cirrhosis cases. In addition, pregnant women infected with hepatitis B could transmit the virus to their babies. Newborn vaccinations will prevent infants from becoming carriers and reduce their risk of liver disease. Apart from alcohol and virus induced liver disease, the liver may also be affected by congenital defects, bacterial and parasitic infection, poisoning, and autoimmune processes.

What is the Department of Community Health doing to affect this indicator?

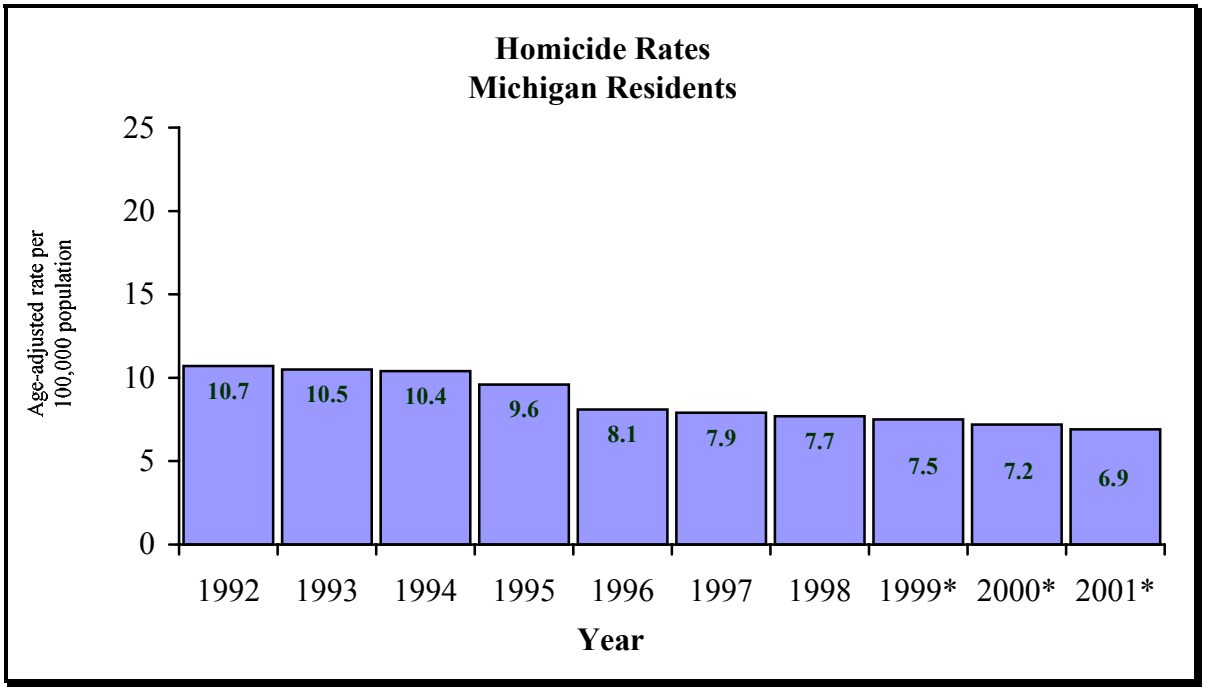
The department is actively working to reduce the prevalence and impact of chronic liver disease and cirrhosis. The department provides testing for and diagnosis of viral hepatitis (hepatitis B and hepatitis C), which are significant contributors to liver disease. Hepatitis B vaccinations are also provided through many local health departments with vaccine purchased by the department. Hepatitis B vaccine is also provided free of charge to every birthing hospital in the state so that all newborns can be vaccinated against hepatitis B before they leave the hospital, in accordance with national recommendations by the Centers for Disease Control and the American Academy of Pediatrics.

In addition, the department supports programming that focuses on changing community norms around alcohol use and reducing underage drinking. The Michigan Coalition to Reduce Underage Drinking (MCRUD) is a coalition of prevention partners that focuses on underage drinking issues through grant awards and support of local groups. The department also supports a campus-mentoring

program and advertising campaign that emphasizes an alcohol and drug-free approach to college life. Substance use prevention activities are intended to have a long-term effect on this indicator.

Last Updated: May 2003.

Vital Statistics Indicators
Homicides



* Death data based on ICD-10 coding. See *Technical Notes* for detailed explanation on ICD coding changes.
Source: Division for Vital Records and Health Statistics, MDCH

How are we doing?

Homicide is the fourth leading cause of Years of Potential Life Lost (YPLL) for people below the age of 75 in Michigan.

Homicide is the negligent or intentional killing of one person by another. Homicide may be the result of an act of violence between friends or acquaintances, or an incident of domestic violence or child abuse. Homicide may also be the result of crimes perpetrated by strangers.

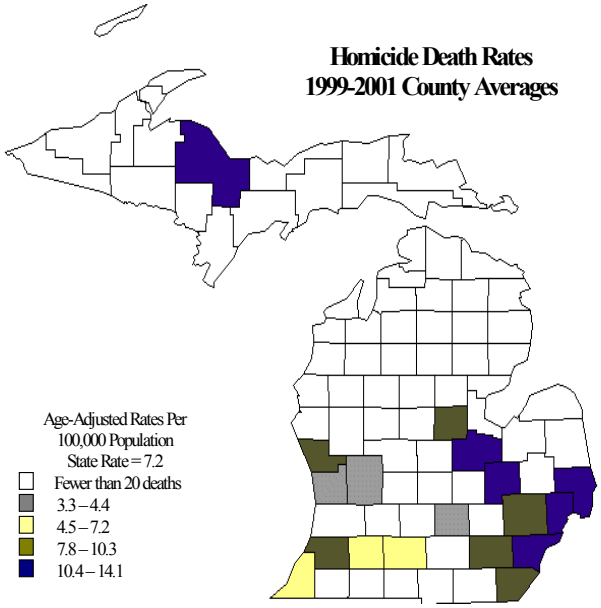
In 2001, there were 684 deaths due to homicide in Michigan. The age-adjusted rate for homicide was 6.9 per 100,000 population. Age-adjusted homicide rates have steadily declined since the peak in 1991. Homicide was one of Michigan's top 10 leading causes of death between 1990 and 1996.

How does Michigan compare with the U.S.?

Michigan's 2000 age-adjusted homicide rate of 7.2 was similar to the U.S. rate of 6.1. Homicide was the sixth leading cause of YPLL in the U.S. in 1999. National homicide rates have also been declining and are the lowest they have been in three decades.

How are different populations affected?

Adolescents experienced an overall increase in mortality in the second half of this century. This is due mainly to an increase in homicide, suicide, and accidents for that age group. In Michigan, homicide was the second leading cause of death for 15-34 year-olds and the fourth leading cause of death for children 5-14 years old. Since the 1980s, adolescents, along with other groups, have shown a steady decline in homicide rates.



The homicide rate for African-Americans is over 13 times higher than it is for whites. In 2001, the age-adjusted rate for African-Americans was 32.2 compared to 2.4 for whites. The age-adjusted death rate is highest for African-American men at 58.5. Homicide is the leading cause of death for African-American men and women aged 15-34.

Men are more likely than women to be both victims and perpetrators of homicide. The age-adjusted homicide rate for men (10.9) was more than three times the rate for women (2.8).

For more state and local data on homicide deaths, visit the Michigan Department of Community Health Web site at ***www.michigan.gov/mdch***.

What other information is important to know?

Lifestyle behaviors (such as weapon possession), a pattern of parental abuse or violence, racial discrimination, and a belief in the use of violence or physical punishment as a socializing agent are risk factors associated with being either a victim or perpetrator of homicide. In addition, alcohol and drug use have been shown to be a contributing factor to, but not the cause of, homicide.

What is the Department of Community Health doing to affect this indicator?

The department supports youth and domestic violence prevention and reduction efforts to change the circumstances that can lead to homicide.

The department has also developed and implemented a model system for the collection, analysis, and dissemination of intimate partner violence-related data and information.

The department responds directly to persons who are of potential danger to themselves as a result of mental illness by providing psychiatric inpatient care at three adult and one child and adolescent state-operated psychiatric hospitals as well as one of the community hospitals. Community Mental Health Service Programs, through contracts with the department, offer a comprehensive array of specialty services such as psychiatric inpatient care, hospital-based crisis observation care, intensive crisis residential and stabilization services, and community treatment.

For more information about injury prevention, visit the Michigan Department of Community Health's Injury Prevention Section at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_2981-51165--,00.html

Last Updated: May 2003

Appendix A

Michigan Critical Health Indicators Summary Table

		Indicator	Year	Rate/Percent /Number
Focused Indicators	*Health Risk Behaviors*	Induced Abortions	2001	12.6/1,000
		Adolescent Use of Alcohol, Tobacco, Other Drugs	2001	
		Current drinker		46%
		Current smoker		26%
		Current marijuana user		24%
		Current cocaine user		4%
		Current Cigarette Smoking	2001	26.1%
		Overweight	2001	60.4
		Teen Pregnancy	2001	63.8/1,000
	*Morbidity & Mortality**	AIDS Deaths	2001	2.6/100,000
		Alcohol Induced Deaths	2001	7.2/100,000
		Chlamydia Cases	2001	313/100,000
		Infant Mortality	2001	8.0/1,000
		Suicides	2001	10.6/100,000
		Tuberculosis Cases	2002	3.2/100,000
	Preventive Health Care	Adequate Prenatal Care	2001	77.4%
		Childhood Immunizations	2002	
		4-3-1 Series		84.3%
		4-3-1-3-3 Series		81.6%
		Mammography (Never had a mammogram)	2000	8.8%
		MIChild Enrollment	June 2003	33,505
		Healthy Kids Enrollment	May 2003	348,921
Vital Statistics Indicators*		Heart Disease Deaths	2001	280.3/100,000
		Cancer Deaths	2001	203.2/100,000
		Stroke Deaths	2001	59.5/100,000
		Chronic Obstructive Pulmonary Disease Deaths	2001	43.0/100,000
		Unintentional Injury Deaths	2001	33.3/100,000
		Pneumonia and Influenza Deaths	2001	21.7/100,000
		Diabetes Related Deaths	2001	82.3/100,000
		Kidney Disease Deaths	2001	16.1/100,000
		Chronic Liver Disease and Cirrhosis Deaths	2001	10.8/100,000
		Homicides	2001	6.9/100,000
		* Mortality rates are age-adjusted, excluding infant mortality (See *Technical Notes* for definition).		

Last Updated: August 2003

Appendix B
Technical Notes

Age-adjusted and crude rates are different ways to measure death rates. The crude rate is defined as the total number of events divided by the total population at risk, then multiplied by 100,000. A crude rate demonstrates the impact on the community, but may not be useful for comparing mortality among geographic areas or monitoring changes over time because mortality depends on the age composition of the population for a specific area as well as age-specific death rates. Thus, it is useful to summarize specific death rates in an overall mortality index that takes the age of the population into account. One such index is the age-adjusted mortality rate.

The age-adjusted death rate is a summary rate of deaths that is developed using a standard population distribution to improve the comparability of rates for areas or population subgroups with differing age distributions. Age-adjusted death rates represent the mortality experience that would have occurred in a standard population had the age-specific rates of the area or population subgroup been experienced by the standard population. Both crude and age-adjusted rates are presented as per 100,000, except for infant mortality.

Behavioral Risk Factor Survey (BRFS) is an annual telephone survey of a random sample of persons aged 18 or older. The surveillance system uses a survey instrument to ask participants a core set of questions. It relies on self-reported information.

Behavioral Risk Factor Surveillance System (BRFSS) is a series of annual telephone surveys. The Centers for Disease Control and Prevention (CDC) provides a core set of questions and each state may add their own survey questions. The surveillance system allows Michigan to compare itself to the U.S. and to examine change over time.

CDC is the U.S. Centers for Disease Control and Prevention, and is an agency of the Department of Health and Human Services.

Childhood immunization is measured as the percentage of children who received four doses of DPT, three doses of polio, and one dose of MMR by their second birthday (4-3-1 series). In 1999, three doses of *Haemophilus influenzae* type B vaccine (Hib) and three doses of hepatitis B vaccine (Hep B) were added to the list of vaccines used to assess the extent to which Michigan=s children are appropriately immunized. The 1991 immunization data in this report are from a retrospective study done by the state of Michigan. All other data are from the National Immunization Survey conducted annually by the Centers for Disease Control and Prevention.

Childhood immunization for Medicaid managed care is measured as the percentage of children who received four doses of DTaP or DPT, four doses of HiB, three doses of IPV or OPV, three doses of Hep B, and one dose of MMR by their second birthday (4-4-3-3-1 series). Data is from an External Quality Review of the Medicaid contracted health plans. This review was conducted by the Michigan Peer Review Organization for the Michigan Department of Community Health.

Comparison of Michigan to the U.S. uses the most recent data available for which comparable state and national data exist and does not take trends into account.

Comparability Ratios: The comparability ratio results from double-coding a large sample of the national mortality file, once by the old revision (ICD-9) and again by the new revision (ICD-10), and expressing the results of the comparison as a ratio of deaths for a cause of death by the later revision divided by the number of that cause of death coded and classified by the earlier revision. A ratio greater than 1.0 indicates that the new coding structure will classify more deaths to that underlying cause of death. For a list of comparability ratios for leading causes of death in Michigan, please see www.michigan.gov/mdch mortality statistical table notes.

County maps are constructed by partitioning counties into four groups - - two equal groups with rates higher than the state rate and two equal groups with rates lower than the state rate. County rates are considered to be unreliable when there are fewer than six events when using crude rates, or fewer than 20 events when using age-adjusted rates. Three-year averages were used for the county maps to decrease the effects of rate variability.

Data are primarily provided by the Division for Vital Records and Health Statistics, Medical Services Administration, and the Bureau of Epidemiology, MDCH. Other sources of data are identified either on the chart or in the text for each indicator.

Data - ICD 9 Codes: The following codes from the *International Classification of Diseases, Ninth Revision* (ICD-9) are used to define mortality indicators:

- Heart disease deaths 390-398, 402, 404-429
- Cancer deaths 140-208
- Stroke deaths 430-438
- Chronic obstructive pulmonary disease deaths 490-496
- Unintentional injury deaths E800-E949
    - Motor vehicle crash deathsE810-E825
- Pneumonia and influenza deaths 480-487
- Diabetes-related deaths* 250
- Kidney disease deaths 580-589
- Chronic liver disease and cirrhosis 571
- Suicide E950-E959
- Homicide E960-E978
- HIV/AIDS deaths 42-44
- Alcohol-induced deaths** 291, 303.0, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 790.3

* Diabetes mentioned as either underlying or related cause of death.
** Alcohol-induced deaths are not directly comparable to the indicator reported in 1996, which did not include 357.5, 425.5, 535.3, and 790.3. However, data are directly comparable to the indicator reported in 1997 and 1998.

Data - ICD-10 Codes: Starting in 1999, deaths were classified using ICD-10 coding. The following codes from the *International Classification of Diseases, Tenth Revision* (ICD-10) are used to define mortality indicators.

- Heart disease deaths I00-I09, I11, I13, I20-I51
- Cancer deaths C00-C97
- Stroke deaths I60-I69
- Chronic obstructive pulmonary disease deaths J40-J47
- Unintentional injury deaths V01-X59, Y85-Y86
    - Motor vehicle crash deathsV02-V04, V09.0-V09.2, V120V14, V19.0-V19.2, V19.4-V19.6, V20-B79, V80.3-V80.5, V81.0-V81.1, V82.0-V82.1, V83-V86, V87.0-V87.8, V88.0, V88.8.V89.0, V89.2
- Pneumonia and influenza deaths J10-J18
- Diabetes-related deaths* E10-E14
- Kidney disease deaths N00-N07, N17-N19, N25-N27
- Chronic liver disease and cirrhosis K70, K73-K74
- Suicide X60-X84, Y87.0
- Homicide X85-Y09, Y87.1
- HIV/AIDS deaths B20-B24
- Alcohol-induced deaths F10, G31.2, G62.1, I42.6, K29.2, K70, R78.0, X45, X65, Y15

* Diabetes mentioned as either underlying or related cause of death.

Infant Support Services (ISS) provides psychosocial support, nutrition information, and transportation to families with infants at risk of poor health outcomes.

Kessner Index is a measure of the level of prenatal care based on information obtained from birth certificates.

- An adequate level of prenatal care is defined as care that began within the first trimester and which included an

average of at least one or two additional prenatal visits per month of gestation, depending on the length of gestation.

- An intermediate level of prenatal care is defined as care that began during the second trimester of pregnancy with correspondingly fewer visits, or that began during the first trimester but with fewer visits than would be appropriate for the length of gestation.
- An inadequate level of prenatal care is defined as no care received or care that began during the third trimester. It is also inadequate if care began during the first or second trimester but less than five visits occurred when the length of gestation was 34 weeks or more. When the length of gestation was less than 34 weeks, care is inadequate if it began during the first or second trimester but a number of visits less than four occurred, that number depending on the actual weeks of gestation.

MDCH is the Michigan Department of Community Health.

MIChild enrollment data are reported to the Michigan Department of Community Health by Maximus. In October of 1998, there were 2,945 children added to MIChild from the Caring for Children Program.

Maternal and Infant Health Advocacy Services (MIHAS) provide support services to women least likely to get into and stay in prenatal care. The program=s peer advocates assist women to obtain and keep prenatal, other health, and social support service appointments that help women cope with problems affecting their pregnancy.

Morbidity is the state of being diseased. The morbidity rate the number of cases of disease found to occur in a population, usually given as cases per 100,000.

MPRO is the Michigan Peer Review Organization, a private firm contracted by the Michigan Department of Community Health to do an external quality review of Medicaid managed care health plans.

Maternal Support Services (MSS) provides psychosocial support, nutrition information, and transportation to pregnant women at risk of poor birth outcomes.

Overweight is a Body Mass Index (BMI) at or above $25kg/m^2$ in adults. Obesity is a BMI at or above $30kg/m^2$. These measurements are based on the National Institutes of Health (NIH) Clinical Guidelines. BMI is a practical measure that requires only two things: accurate measures of an individual's weight and height. BMI has some limitations, in that it can overestimate body fat in persons who are very muscular, and it can underestimate body fat in persons who have lost muscle mass, such as many elderly.

Population estimates used for the calculation are the most current available at time of report. Past Michigan Critical Health Indicators report used earlier estimates. As a result, statistics rates may be slightly different.

PRAMS, the Pregnancy Risk Assessment Monitoring System, is a surveillance project of the Centers for Disease Control and Prevention and state health departments. PRAMS collects state-specific, population-based data on maternal attitudes and experiences prior to, during, and immediately following pregnancy.

Rates are subject to variation that is directly related to the number of events used to calculate the rate. The smaller the number of events, the higher the variability. Rates based on small numbers of events over a specified time period or for a small population vary considerably and should be viewed with caution. This report uses three-year averages to provide some stabilization for the rates calculated at the county level. The reader should also be cautioned against assigning undue significance to a rate that represents only a single point in time.

Trend directions are determined after calculating a 10-year slope as well as percent change over 10 years and one year. All three were reviewed to determine the significance and direction of change.

Underlying Cause of Death is the condition giving rise to the chain of events leading to death.

Years of Potential Life Lost (YPLL) is a measure of mortality designed to emphasize mortality that is prevalent among people under age 75. The number of years of potential life lost is calculated as the number of years between

the age at death and 75 years of age for persons dying before their 75th year.

YPLL rate is the approximated total number of Years of Potential Life Lost due to a specific cause of death, divided by the current population estimate for people under the age of 75. 2000 Census population e was used to calculate 2001 YPLL rates.

Average YPLL/person is the approximated total number of Years of Potential Life Lost due to a specific cause of death, divided by the number of people who died from that cause.

Youth Risk Behavior Survey (YRBS) is a survey of ninth through twelfth graders undertaken every other year. The YRBS has been administered in Michigan every other year since 1991. Earlier administration of the YRBS in Michigan did not obtain sufficient participation from schools and students to generalize the results to the entire state. The 1997, 1999 and 2001 YRBS can be generalized to the entire state.

Last updated: August 2003.

Appendix D
Related Documents

Cancer Incidence and Mortality, Michigan Department of Community Health, (Lansing, Michigan), annual report.

Community Health Profiles (Round One), Michigan Public Health Institute (Lansing, Michigan), 1995.

Community Health Profiles (Round Two-Substance Abuse, Mental Health, Environmental Health and Health Systems Modules), Michigan Public Health Institute (Lansing, Michigan), 1996.

Health Risk Behaviors: Results from Michigan Behavioral Risk Factor Survey, Michigan Department of Community Health (Lansing, Michigan), annual report.

Healthy Michigan 2000: Michigan Department of Public Health Strategic Plan: First Edition, Michigan Department of Public Health (Lansing, Michigan), November 1993.

Healthy Michigan 2000: Second Edition, Michigan Department of Community Health (Lansing, Michigan), 1996.

Healthy People 2010, U.S. Department of Health and Human Services, January 2000.

Induced Abortion Report, Michigan Department of Community Health, (Lansing, Michigan), annual report.

Michigan Critical Health Indicators, Michigan Department of Community Health (Lansing, Michigan), annual reports 1996, 1997, 1998.

Youth Risk Behavior Survey, Michigan Department of Community Health, (Lansing, Michigan), bi-annual report. 1999, 2001

National Vital Statistics Reports, National Center for Vital Statistics (Hyattsville, Maryland), annual updates.

2001 Pregnancy Nutrition Surveillance System (PNSS) data, Michigan –Center for Disease Control (CDC).

Last Updated: May 2003.

More Information

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