

# MICHIGAN CHILD HEALTH AND SAFETY RISK SURVEY, 2001: SUMMARY OF FINDINGS

## Executive Summary

To collect information about health conditions as well as health and safety risk behaviors, the Office for Survey Research at the Institute for Public Policy and Social Research, Michigan State University conducted the Michigan Child Health and Safety Risk Survey (MCHSRS). The survey recruited a total of 522 households with at least one child one through 14 years of age by telephone from December 2000 to May 2001. A knowledgeable adult in each household served as the respondent. The data were weighted to reflect all children aged 1-14 years in Michigan.

Key findings of MCHSRS include:

- 34.3% of households with a child 1-14 years of age, had a special health need or condition, including medication/special dietary needs, that have lasted for one year or more.
- 4.8% of children aged 1-14 years reportedly did not have health insurance, of whom 20.9% had been without insurance for five or more years.
- 8.7% of the children reportedly had not seen a dentist in the past 24 months or had never seen a dentist; an additional 7.4% reported that their children had not seen a dentist during the past 12 months. Of the children who had not seen a dentist during the past 24 months or had never seen a dentist, 34.3% of the respondents said they had no insurance and it costs too much, 20.4% said they were too busy or did not have the time, and 10.7% said they did not know the child should see a dentist.
- 35.8% of the children aged one through three years reportedly had gone to bed at least occasionally with a bottle of juice, formula milk, or other liquid besides water, which is a dental health hazard.
- Asthma or reactive airway disease was the most common special health condition, affecting 12.6%, or 255,754, of Michigan children aged 1-14 years.
- 26% of the children aged 1-14 years lived in households where firearms were in or around the home. Of these children, 81.0% lived in households where all of the firearms were effectively locked up away from the children; 4.9% lived in households where only some firearms were locked up; 14.1% lived in households where none of the firearms were locked up.
- 30.9% of the children aged 1-14 years lived in households where one or more persons currently smoked tobacco.
- 20.8% lived in households where one or more individuals were moderate (i.e., two or more alcoholic drinks per day) or frequent (i.e., two or more days per week) drinkers of alcoholic beverages.

- 1.4% lived in households where there were current illicit drug users in the household (including marijuana, cocaine, or other illicit drugs).
- 8.8% of the respondents reported that shooting/gun fire “occasionally” happens in their neighborhood; 4.0% reported that it happens “somewhat often,” and an additional 1.7% reported that it happens “very often.”
- 14.3% of the children aged 1-14 years reportedly had had an injury during the previous 12 months that limited the child’s activities for at least one day or that required medical attention. Falls and sports activities were the two most common causes of injury, accounting for 38.3% and 34.8% of the children injured, respectively.
- 13.4% of the children aged 1-14 years had ever been involved in an automobile accident. This percentage rose to 20.3% for children aged 10-14 years. 8.7% of the children did not consistently use a seatbelt or car seat when riding in a vehicle. These children are at risk of severe injuries in case of an accident.

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## Introduction and Overview

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

To meet this data need, the Michigan Department of Community Health commissioned and funded the Office for Survey Research, Institute for Public Policy and Social Research, Michigan State University, to conduct a pilot telephone survey, titled the Michigan Child Health and Safety Risk Survey (MCHSRS). The primary purpose of this pilot survey was to explore the feasibility of, and to develop an instrument for, a full-scale children's health survey. In addition, the pilot survey sought to calculate the sample sizes needed for making statistically stable estimates for certain health conditions and health risk behaviors. The survey also generated useful information on the prevalence of certain health conditions and health risk behaviors.

Using the random digit dialing technique, a total of 522 households with at least one child aged 1-14 years were recruited by telephone from December 2000 to May 2001. An adult in each of these households was interviewed about the children in the household. Although the sample size in this survey is relatively small so the margins of error for certain measures and within certain strata of the sample are quite large, it appears that the design and instrument are quite effective at obtaining health information in children one through 14 years of age. The survey also generated useful information on child health and health risk behaviors in the following areas:

- Children with special health care needs
- Chronic illnesses and medical conditions
- Health insurance coverage
- Access to medical care
- Dental care
- Injuries
- Automobile safety and seatbelt use
- Other child safety issues (i.e., poisoning, helmet use, seatbelt use)
- Availability and storage of firearms in the home
- Health risk behaviors
- Exposure to violence.

This report presents a brief summary of the major findings on each of these issues. It should be noted that this survey is the only source of population-based data of the prevalence of health conditions and health risk behaviors among Michigan children one through 14 years of age.

This report was developed collaboratively by Dr. Jianli Kan, Dr. Bao-Ping Zhu, Ms. Katherine McGrath-Miller, and Mr. Douglas Paterson at the Michigan Department of Community Health, and Dr. Larry Hembroff at the Office for Survey Research, Institute for Public Policy and Social Research, Michigan State University. For more information about this report and the survey, please contact Dr. Jianli Kan via email ([KanJ@Michigan.gov](mailto:KanJ@Michigan.gov)).

## Children with Special Health Care Needs

Among 923 children in the households interviewed, 247 were reported by the survey respondents to have had at least one special need or chronic medical condition of at least 12 months duration. This represents 26.8% of all Michigan children in the 1-14 year age group, affecting more than a third (34.3%) of all households with children in this age range. Projected to all households in the state with children in this age group, an estimated 315,200 households in the state had at least one child with a chronic health condition or special health care need, with a total of 422,914 children being affected.

The percentage of households that have at least one child with various special health care needs lasting at least 12 months and the estimated numbers of households and children affected are shown in Table 1.

**TABLE 1: Percent and Number of Households With at Least One Child Aged 1-14 Years Having Various Special Health Care Needs, and Number of Children: Michigan, 2001**

Special Health Care Needs (Has at least one child that . . .)	% of Households	Estimated Number of Households	Estimated Number of Children
Takes daily medications other than vitamins . . . . .	21.0%	188,088	230,209
Has life-threatening allergic reactions . . . . .	5.7%	50,966	56,415
Needs a special diet or to avoid certain foods . . . . .	6.8%	60,413	70,082
Sees a medical doctor or specialist on a regular basis . . . . .	18.6%	166,517	209,061
Sees a counselor, psychiatrist, psychologist, or social worker on a regular basis . . . . .	5.4%	47,899	66,064
Receives services such as physical therapy, occupational therapy, speech or language therapy, or orientation and mobility training on a regular basis . . . . .	6.4%	56,798	71,675
Has been hospitalized . . . . .	8.6%	77,276	81,829
Needed medical, health-related, or mental health services that he/she has been unable to get . . . . .	2.4%	21,511	30,611
Has a serious delay in physical growth or development . . . . .	4.4%	39,541	*
Has a serious delay in mental or emotional growth or development . . . . .	3.8%	33,774	*
Has to reduce exertion in activities compared other children of comparable age . . . . .	4.7%	42,157	47,607
Is blind, nearly blind or has difficulty seeing . . . . .	5.3%	47,375	51,015
Is deaf, nearly deaf or has difficulty hearing . . . . .	3.5%	31,526	*
Requires modification of class schedule, curriculum, or gym classes . . . . .	6.1%	56,754	67,702
Requires making the classroom accessible . . . . .	5.4%	48,651	53,497
Requires getting and using special equipment . . . . .	3.5%	30,981	32,790
Requires special lunches or snacks . . . . .	1.8%	16,391	18,200
Requires special transportation . . . . .	2.2%	19,785	*
Requires tutoring by a teacher, other professional or a resource room . . . . .	7.9%	70,423	85,921
Has trouble understanding simple instructions . . . . .	6.1%	54,246	*

\* Because these questions were only asked of a randomly selected child in each household, it was not possible to estimate the total number of children affected by these conditions in the state.

## Chronic Illnesses and Medical Conditions

Respondents were asked a series of questions regarding specific types of illnesses or chronic medical conditions their children had. Table 2 shows the estimated prevalence of various illnesses or chronic medical conditions, and the numbers of children affected statewide. The most prevalent chronic medical condition was asthma or reactive airway disease, affecting 12.6% (255,754) of Michigan children. This was followed by mental, cognitive or learning-related health conditions (e.g., ADD, ADHD, autism, or reduced mental ability), affecting 9.6% of the children, and other breathing problems without an asthma diagnosis, affecting 6.3% of the children.

**TABLE 2: Percent and Number of Children Having Various Chronic Illnesses or Medical Conditions: Michigan, 2001**

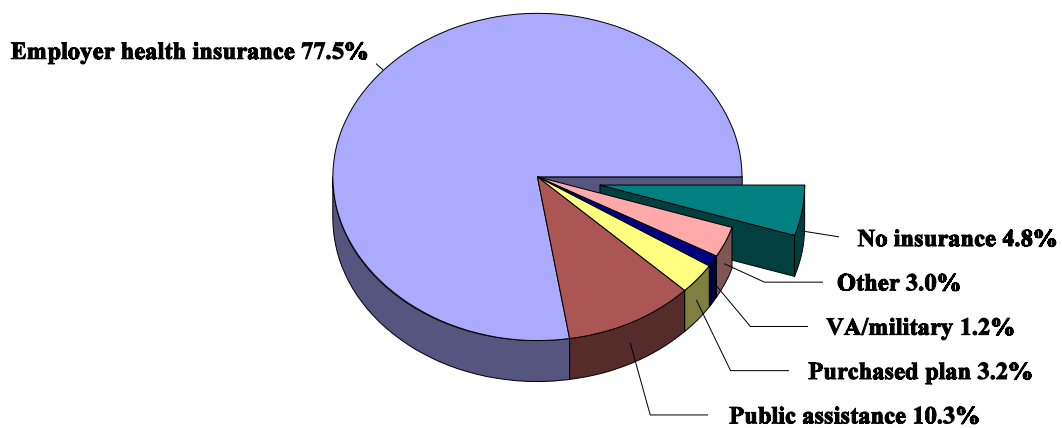
Illness/Condition	Percent of Children	Estimated Number of Children
Paralysis of any part of his/her body (or hemiplegia) . . . . .	1.6%	32,477
Congenital anomalies, such as a hole in the heart, a blood disorder, deformed limb, dwarfism, albinism, spina bifida, cleft palate, or others . . . . .	2.4%	48,715
Mental, cognitive or learning-related health conditions, such as ADD, ADHD, autism, or reduced mental ability . . . . .	9.6%	194,861
Cancerous tumor, that has not metastasized . . . . .	0.2%	4,060
Leukemia . . . . .	0.2%	4,060
Cancer that has metastasized . . . . .	0.0%	(Not estimable)
AIDS . . . . .	0.1%	2,030
Asthma or reactive airway disease . . . . .	12.6%	255,754
Breathing problems (but no asthma diagnosis) . . . . .	6.3%	127,877
Diabetes . . . . .	0.2%	4,060

## Health Insurance Coverage

Of the children aged 1-14 years in the survey, 95.2% were reportedly covered by some type of health insurance – 77.5% were covered through an employer, 10.3% were covered by Medicaid or medical assistance, 3.2% were covered by some other purchased plan, 1.2% were covered by Medicare or insurance from the military, CHAMPUS, tricare, or the VA, and 3.0% were covered through insurance from some other sources: 4.8% of the children reportedly lacked insurance coverage (Figure 1). Of the children without health insurance, 12.0% had been without insurance coverage for at least part of the previous year.

Of those without health insurance at the time of the interview, 31.9% had been without insurance for one to six months, 18.3% for six to 12 months, 21.0% for one to two years, and 20.9% for five or more years. There were 7.8% of the children whose adult informants did not know how long they had been without insurance.

**FIGURE 1: Health Insurance Coverage for Children Aged 1-14 Years: Michigan, 2001**

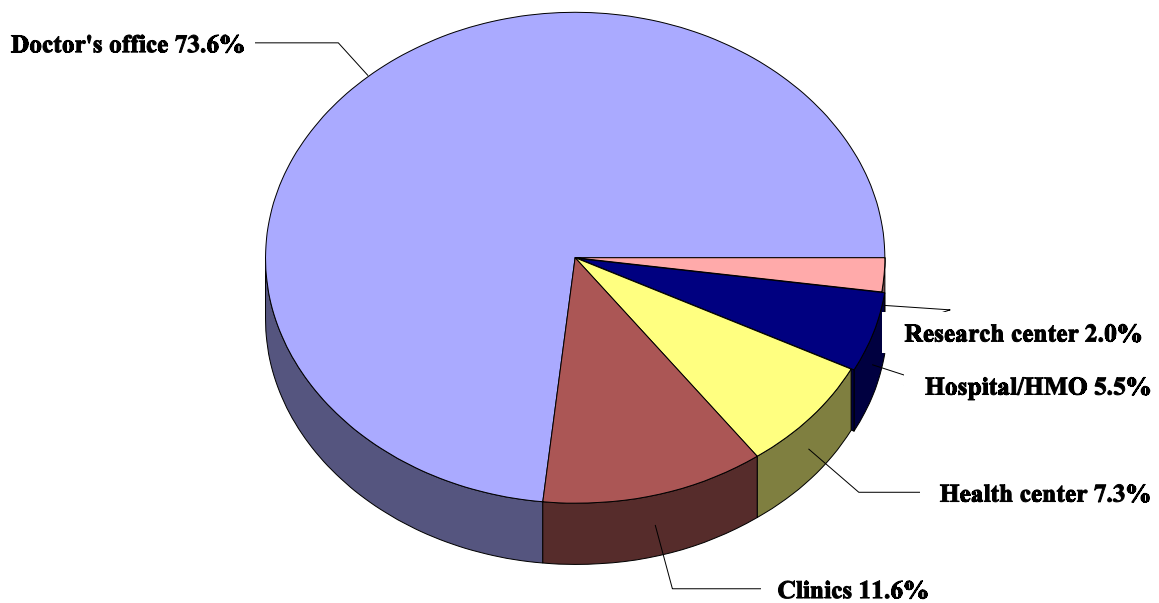


## Access to Medical Care

Most (97.5%) of the children reportedly had a particular clinic, health center, doctor's office or other place (i.e., a "medical home") where they can go when they were sick or otherwise needed health care. Of these children, 73.6% reportedly go to a doctor's office, 11.6% to a clinic, 7.3% to a health center, 2.7% to a hospital, 2.8% to an HMO and 2.0% to a research clinic or center (Figure 2).

Among the children aged 1-14 years, 84.7% reportedly had had a medical visit for a routine checkup within the past six months, 11.9% had one in the past year, 2.6% within the past two years, and 0.8% had not seen a doctor for a routine checkup for two or more years.

**FIGURE 2: Places Where Children Aged 1-14 Years Went for Health Care Services: Michigan, 2001**



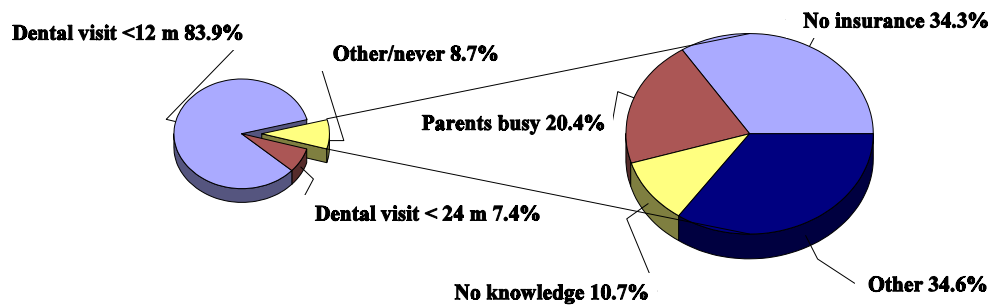
## Dental Care

More than eight out of ten children (83.9%) aged 4-14 years reportedly visited a dentist or dental clinic for a check-up within the past 12 months; an additional 7.4% had been to a dentist within the past 24 months (Figure 3).

Of the 8.7% of children who reportedly had not seen a dentist in the past 24 months, 34.3% were because they had no insurance and it cost too much, 20.4% were because the adults in the households were too busy or did not have the time, and 10.7% were because the adults did not know the child should see a dentist.

Respondents of children aged one through three years were also asked whether the child had ever gone to bed with a bottle of juice, formula, milk, or other liquid besides water (which is a dental health hazard), and how frequently they did it. An estimated 35.8% of the children in this age group reportedly had done so at least occasionally.

**FIGURE 3: Frequency of Dental Visits, and Reasons for Lack of Appropriate Visits, for Children Aged 4-14 Years: Michigan, 2001**





## Injuries

Approximately one in eight children (14.3%) aged 1-14 years reportedly had had an injury during the previous 12 months that limited the child's activities for at least one day or which required medical attention. Projected to the population of children in this age group, an estimated 290,361 children are injured in Michigan each year.

The incidence of injury increased with age: 7.2% of the children under age five, 10.0% of the children aged 5-9 years, and 25.4% of the children aged 10-14 years had been injured during the previous 12 months (Table 3).

Regarding the causes of injuries, falls were the most frequently reported cause of injury, accounting for 38.3% of the children injured; followed by supervised sport, accounting for an additional 34.8% of the children injured (Table 3).

**TABLE 3: Percent and Number of Children Aged 1-14 Years Who Had Injuries During the Past 12 Months, by Age and Type of Injury: Michigan, 2001**

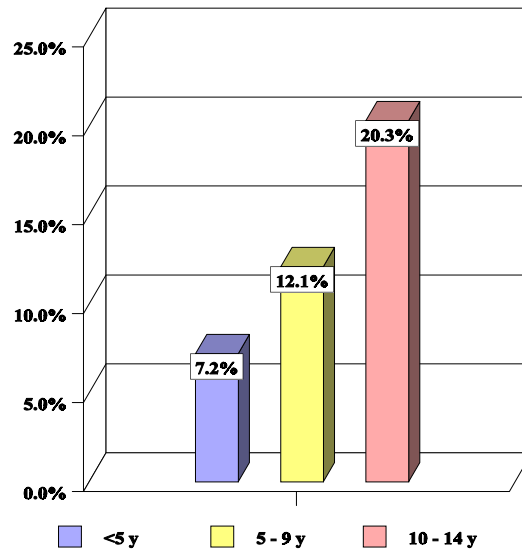
	% of children injured	Estimated Number of Children
Total	14.3%	290,870
<u>Age (years)</u>		
1-5	7.2%	41,360
5 - 9	10.0%	70,960
10 - 14	25.4%	178,550
<u>Type of injuries</u>		
Fall	38.3%	111,170
Sports	34.8%	101,011
Auto accidents	4.1%	11,901
Physical violence	1.9%	5,515
Pedestrian	1.7%	4,934
Bicycling	0.6%	1,742

## Automobile Safety and Seatbelt Use

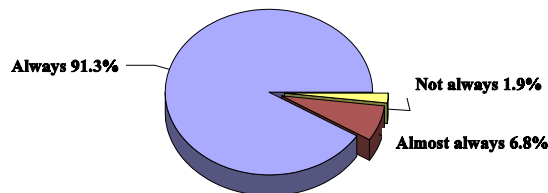
Of all children aged 1-14 years in the survey, 13.4% reportedly had been involved in at least one automobile accident in their lifetime. The percent of children involved in automobile accidents increased with age: 7.2% of children under age five, 12.1% of children aged 5-9 years, and 20.3% of children 10-14 years of age reportedly had been in an automobile accident in their lifetime (Figure 4). These data indicated that approximately one in five Michigan children have a chance of being in an automobile accident before they reach age 15.

While 91.3% of the children reportedly “always” used a seatbelt or car seat while riding in a vehicle during the previous six months, 6.8% reportedly “almost always,” and 1.9% reportedly “did not always” use a seatbelt or a children’s car seat (Figure 5). Projected to the population, 176,592 children in Michigan reportedly do not consistently (i.e., including those who “almost always” or “not always”) use a seatbelt or car seat when riding in a vehicle, and are at risk of suffering from severe injuries in case of an automobile accident.

**FIGURE 4: Lifetime Involvement in an Automobile Accident for Children Aged 1-14 Years, by Age: Michigan, 2001**



**FIGURE 5: Use of Seatbelt or Infant Car Seat Among Children Aged 1-14 Years: Michigan, 2001**



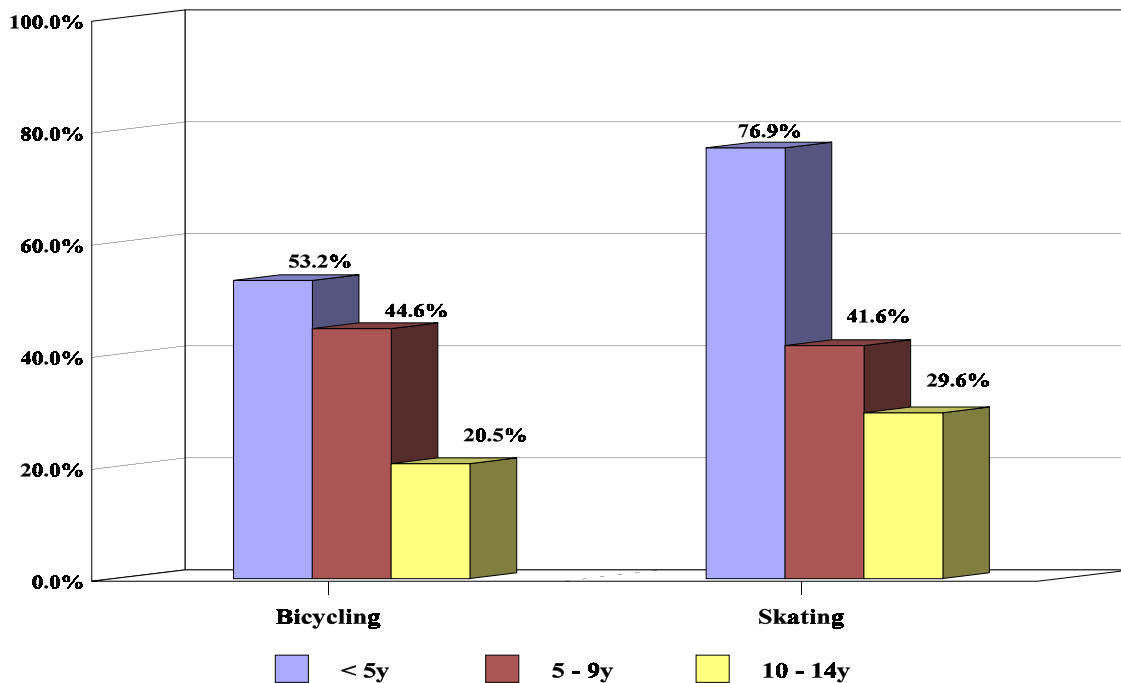
## Other Child Safety Issues

Poisons: Questions were asked of children's exposure to poisonous chemical materials. An estimated 5.1% of children, representing approximately 103,520 children statewide, reportedly were exposed to a poison by swallowing, contacting or spilling on their skin. Among those exposed children, 28.3% were taken to an emergency room, or to see a health care provider.

Helmet use: Wearing a helmet during any bicycle or skating sport is important for protecting children from head injury. The survey found that helmet use while participating in a sport decreased with age. For example, while riding a bicycle, 53.2%, 44.6% and 20.5% of children aged 1-5, 5-9, and 10-14 years, respectively, always wore a helmet. Similarly, 76.9%, 41.6%, and 29.6% of children in the respective age groups always wore a helmet while skating on a skateboard or roller-blading (Figure 6).

Safety of firearms: An estimated 26.0% of children aged 1-14 years lived in a household where firearms were in or around their homes. Among those children who had firearms in or around their homes, 81.0% lived in households where firearms reportedly were effectively locked up away from children, 4.9% lived in a household where only some firearms were locked up, and 14.1% lived in households where none of the firearms were locked up. These data indicated that, statewide, 97,430 children live in households where at least some firearms were not effectively locked up.

**FIGURE 6: Percent of Children Aged 1-14 years Using Helmets When Bicycling, Skateboarding, or Roller-Blading, by Age: Michigan, 2001**



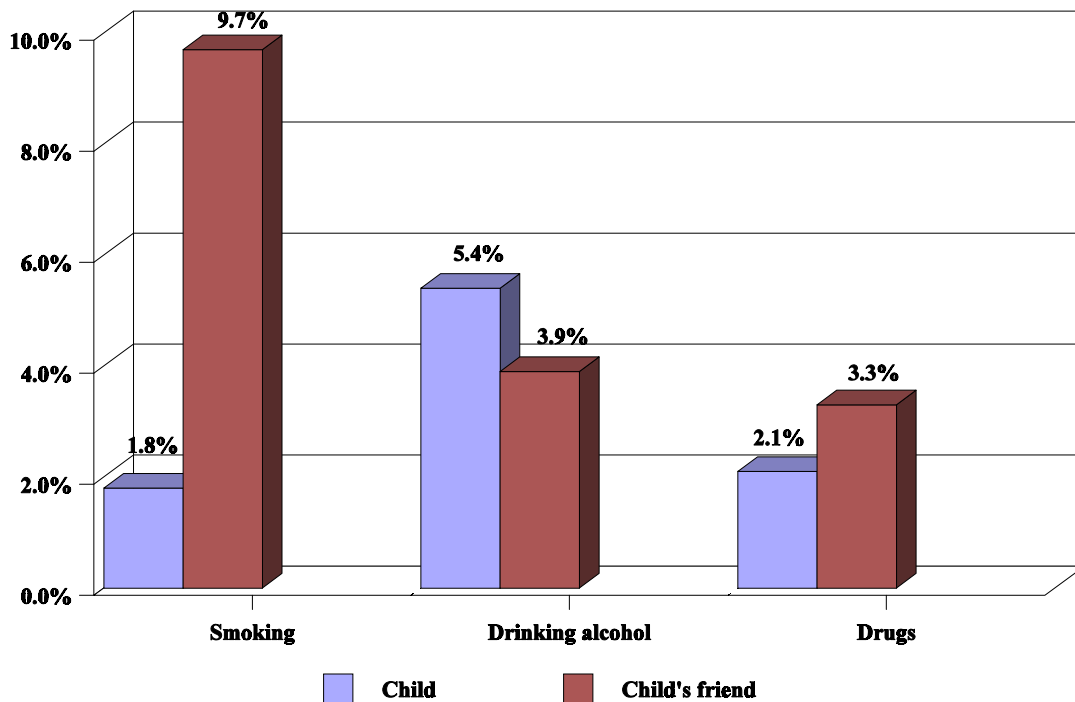
## Health Risk Behaviors

Smoking: An estimated 53.1% of the children reportedly lived in a household where one or more individuals had smoked at least 100 cigarettes in their lifetime, and 30.9% of the children lived in households where one or more individuals smoked currently. When asked about their children aged 10-14 years and their peers, 1.8% of the respondents said they knew their children smoked, and 9.7% said that their child's friends smoked (Figure 7).

Alcohol use: An estimated 20.8% of children reportedly lived in a household with at least a moderate (i.e., two or more drinks per day) or a frequent (i.e., two or more days per week) drinker of alcoholic beverages, and 8.9% lived in a household where someone had engaged in binge drinking at least once in the past month. When asked about their children aged 10-14 years and their peers, 5.4% of the respondents said that they knew their children consumed alcohol at least occasionally, and 3.9% said that their children's friends drank alcohol (Figure 7).

Exposure to illegal drugs: An estimated 31.6% of the children reportedly lived in a household where at least one individual used illicit drugs (e.g., marijuana, cocaine or other illicit drugs) at some point in their lifetimes, while 1.4% of the households reportedly included a current illicit drug user. When asked of their children aged 10-14 years, 2.1% of the respondents said they knew their children had used illicit drugs, and 3.3% said their children's friends used illicit drugs (Figure 7).

**FIGURE 7: Health Risk Behaviors Among Children Aged 10-14 Years and Their Peers: Michigan, 2001**



## Exposure to Violence

More than eight out of ten respondents (82.1%) reported that incidents of interpersonal violence never or very rarely happen in their neighborhood; 12.2% reported these incidences happen “occasionally,” while 5.6% reported these incidents happen “somewhat often or more.”

An estimated 3.2% of households had someone who reportedly had been the victim of interpersonal violence in the past 12 months. Of these victims, 45.4% were children aged 1-14 years. These data indicated that, statewide, an estimated 64,954 children aged 1-14 years are victimized by interpersonal violence each year.

About 1.7% of the respondents reported that shootings and gun fire happen “very often,” 4.0% said “somewhat often,” 8.8% said “occasionally,” 18.5% said “very rarely,” and 66.9% said they “never” happen in their neighborhood (Table 4).

The prevalence of interpersonal violence and shooting/gunfire in their neighborhood varied by race, education, and income level (Table 4).

**TABLE 4: Prevalence of Interpersonal Violence in Household and Shootings in Neighborhood, By Sociodemographic Characteristics of Respondents: Michigan, 2001**

Characteristic	% Reporting Occurs at Least Occasionally			
	Interpersonal Violence		Shootings/Gunfire	
	%	Estimated No. of Children Affected*	%	Estimated No. of Children Affected*
Child's Gender				
Male	21.0%	230,605	18.1%	198,760
Female	14.3%	133,230	10.2%	95,031
Child's Age				
1 - 4 Yrs. Old	17.2%	102,643	15.2%	90,708
5 - 9 Yrs. Old	11.7%	86,920	11.0%	81,720
10 - 14 Yrs. Old	25.8%	178,054	17.6%	121,463
Race				
White	14.4%	238,802	12.2%	202,318
African American	42.6%	127,975	26.1%	78,407
Other	12.5%	8,880	16.7%	11,864
Respondent's Education				
< High School	23.5%	130,222	16.0%	88,662
High School Graduate	21.4%	40,397	22.2%	41,907
Some College	17.8%	139,825	15.5%	121,757
College Graduate +	9.8%	49,133	8.2%	41,112
Income Level				
< \$20,000	20.7%	43,697	20.6%	43,486
\$20,000 - 34,999	31.0%	71,104	30.6%	70,186
\$35,000 - 59,999	26.0%	156,380	17.7%	108,501
\$60,000 or More	11.0%	107,620	7.7%	75,334

\* At the time this survey was conducted and the report was being prepared, the 2000 Census counts of children aged 1-14 years broken down by the categories of these demographic and household variables were unavailable. Therefore, the total numbers of children in these categories had to be estimated from the sample distributions.

## **Appendix: Methodology**

The 2001 Michigan Child Health and Safety Risk Survey (MCHSRS) was designed to be a representative cross-sectional telephone survey of English-speaking households with at least one child one through 14 years of age. These households were identified using the random digit dialing (RDD) sampling procedures to ensure that all households had a chance to be included in the study. Within each selected eligible household, the adult most knowledgeable about the child's or children's health was the targeted respondent.

The overall sampling design for this survey was a disproportionate stratified, list-assisted random-digit dial (RDD) sample. The sample of phone numbers matching these specifications was purchased from Survey Sampling, Inc. (SSI), of Fairfield, Connecticut.

The particular computer assisted telephone interviewing system (CATI) was CASES 4.3, developed by the University of California at Berkeley and the U.S. Department of Agriculture. The interview instrument was developed specifically for this project, but combined many of its elements from a number of other survey instruments. In particular, the interview incorporated modules from NIH's SLAITS (State and Local Area Integrated Telephone Survey). MCHSRS incorporated the introduction, household screening, child enumeration, and demographic modules from SLAITS generally. It also incorporated the QICC-R module (Questionnaire Identifying Children with Chronic Conditions - Revised) from the SLAITS' National Survey of Children with Special Health Care Needs. Other portions of the MCHSRS were adapted from the Utah Health Status Survey, the Behavioral Risk Factor Survey, and the 1999 Youth Behavior Risk Survey. A few items were developed by OSR staff to address issues of interest to MDCH.

The 2001 MCHSRS data were weighted to adjust for the probabilities of selection in the survey. The estimated prevalence and projections were adjusted by using a poststratification weighting factor with SUDAAN, a statistical computing program that was designed for analyzing data from multistage sample surveys.