



The Women's Sports Foundation Report:

The Status of Female Youth Health and Physical Activity in the Chicago Metropolitan Area



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About the Women's Sports Foundation

Founded in 1974 by Billie Jean King, the Women's Sports Foundation is a national charitable educational organization seeking to advance the lives of girls and women through sports and physical activity. The Foundation's Participation, Education, Advocacy, Research and Leadership programs are made possible by gifts from individuals, foundations and corporations. The Foundation is located in Nassau County, N.Y. For more information, please call the Foundation at (800) 227-3988 or visit www.WomensSportsFoundation.org or AOL Keyword:WSF. The Foundation serves as a center for collecting and sharing information on girls and women in sports and physical activity. The Women's Sports Foundation also produces quality academic research on the psychological, social and physiological dimensions of sport and physical activity in the lives of girls and women.

This educational publication is made possible by the support of our members and donors. The Women's Sports Foundation is a 501(c)(3) nonprofit organization. Donations to the Foundation are tax-deductible to the full extent of the law. Please give generously to support our mission and activities.

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Executive Summary



This report highlights key indicators of both the status of physical activity and health for female youth, in the Chicago metropolitan area; these indicators are then compared with national averages in order to contextualize the results.

- Sports team participation:** Just 44.8% of female high school students in Chicago participate on one or more sports teams, compared with the national average of 51%.
- Vigorous physical activity:** Only 38.3% of female high school students in Chicago participate in sufficient vigorous physical activity each week, compared with the national average of 55%.
- Physical education class attendance:** Of Chicago female youth, 57.3% attend physical education classes one or more days a week – compared with the national average of 52.8%.
- Obesity and Overweight:** Female high school students in Chicago (11.5%) are more likely to be obese than the national average of 9.4%. Mirroring a national trend, Black, non-Hispanic females in Chicago are more likely to be obese (13.9) than Hispanic (12.7%) or white (5.7%) females. Additionally, 19% of Chicago youth are at risk of becoming obese, compared with the national average of 15.3%.
- Sedentary lifestyle:** More than half of female high school students in Chicago (52.5%) watch three or more hours of television compared with the national average of 37%.
- Nutrition:** Only 15% of female high school students in Chicago consume the recommended five or more servings of fruit and vegetables per day, compared with the national average of 20.3%.
- Health-risk behaviors:** Generally, fewer female high school students in Chicago smoke cigarettes, participate in binge drinking and plan suicide than the national average. However, Chicago (15%) does have a higher rate of teen pregnancy than the national average (11%); and a slightly higher use of marijuana (21.4% vs. 19.3%).

Overall, this report shows that female youth in the Chicago areas are not getting sufficient physical activity, either through sports teams or independent fitness programs. Coupled with poor nutrition and a sedentary lifestyle, the problem is not just about failing to provide more girls with athletic and fitness opportunities – it is about endangering the public health (Figure 1). If trends do not reverse in the coming years, the current high rate of medical costs associated with obesity will continue to rise.

Figure 1: Status of Female Youth Physical Activity and Health in Chicago Metro Area (Compared With U.S. Averages)

	Sports Team Participation	Vigorous Physical Activity	Phys. Ed. Class Attendance	Obesity*	Overweight: at Risk for Obesity	TV Viewing	Nutrition (Fruit & Veg. Servings)	Disordered Eating Patterns	Tobacco Smoking	Asthma	Teen Pregnancy	Drugs (Marijuana)	Binge Drinking	Suicide Attempts
Chicago														

 = Better than U.S. Average
 = Worse than U.S. Average

* Black and Hispanic youth are significantly more at risk for obesity than white youth

Introduction

The purpose of this report is to shed light on the current status of health and physical activity of girls in the Chicago metropolitan area. There are eight counties included in the Chicago Primary Metropolitan Statistical Area (PMSA) (Figure 2). The Chicago PMSA accounts for 67.6% of the total population of Illinois. Nearly one-third (29%) of the Chicago population is under the age of 19, with roughly 1.5 million children enrolled in grades 1 through 12. Slightly more than half of the general Chicago population are female (51%); and one-third of the general Chicago population are minorities (Hispanic = 19%; African American = 18% - the largest groups represented) (Figure 3).

Regular physical activity has many benefits, including maintenance of healthy muscles and bones, weight control and positive psycho-social effects. Participation in physical activity also decreases the future risk of heart disease, diabetes and other chronic conditions. Trends currently indicate that significantly fewer high school females participate in vigorous activity than males (CDC, 2004).

Obesity has reached epidemic proportions in the United States; the medical cost of obesity-related diseases alone has reached up to \$100 billion annually. These expenses account for nearly 5.7% of the total U.S. medical expenditures and 6.1% of expenditures in the state of Illinois – sixth highest of the 50 states (Finkelstein, Fiebelkorn, and Wang, 2004). An increase in physical activity among children and adults would substantially reduce U.S. healthcare expenditures that are spent on treating obesity-related diseases (Colditz, 1999).

Obesity is related to such chronic diseases as diabetes, heart disease, asthma, osteoarthritis and stroke. Poor diet and lack of physical activity are the most prevalent reasons for the recent increase in overweight and obese Chicago residents. The number of obese and overweight children is on a dramatic rise. Recommendations to prevent overweight children need to focus on “improving the balance between caloric intake and energy expenditure” (CDC, 1997).

Figure 2: Counties Included in the Chicago Primary Metropolitan Statistical Area (PMSA), 2003

County	Population
Cook	5,254,295
DeKalb	85,176
DuPage	909,856
Grundy	39,528
Kane	450,692
Kendall	66,565
McHenry	284,572
Will	578,745

* The counties included in the Chicago metropolitan area account for nearly 68% of the general population of Illinois.

Data Source: Population Division, U.S. Census Bureau, Release Date: April 9, 2004

Figure 3: Survey Area Demographics

Variable	U.S.	Illinois	Chicago PMSA*
Total Population	282,909,885	12,328,721	8,335,114
Female	48.9%	51%	51%
Male	51.1%	49%	49%
Median Age	36.0	35.3	34.2
Under 19	28%	28%	29%
White	77.8%	75%	68%
Black	12.8%	15%	18%
Hispanic	13.6%	14%	19%
Primary School (grades 1-8)	32,706,140	1,428,318	988,096
Secondary School (grades 9-12)	16,599,058	716,904	501,860
Median household income	\$43,564	\$47,977	\$53,462
Mean household income	\$58,036	\$63,127	\$70,650
Individuals below the poverty line in the past 12 months	12.7%	11.3%	10.6%

Data Source: U.S. Census Bureau, American Community Survey Office, 2003.

Findings

I. Physical Activity

Youth Sport Participation Rates: High school females are less likely to participate in sports than high school males. Over the past 10 years, the gender gap has continued to decrease; however, the gap remains larger in the 12th grade – indicating that female athletes are more likely to drop out of sports before graduation (Child Trends, 2003a). While the percentage of athletes that are male has steadily declined, the number of male athletes has been increasing each decade since 1983-84 (National Federation of State High School Associations, 2004) (Figure 4).

Figure 4: High School Athletics Participation Survey Totals: Decade Trends

Year	% Female	#Female	% Male	#Male
1973-74	24.2%	1,300,169	75.8%	4,070,125
1983-84	34.5%	1,747,346	65.4%	3,303,599
1993-94	38%	2,130,315	62%	3,472,967
2003-04	41.5%	2,865,299	58.5%	4,038,253

Data Source: National Federation of State High School Associations 2003-04 High School Athletics Participation Survey

Currently Illinois is ranked 36th out of 50 states with regard to female athletic participation: 39.6% of student-athletes are female, 60.4% are male. There is a -9% gap between the number of females enrolled in Illinois high schools (48.6%), and the number of female student athletes (39.6%). According to the National Federation of State High School Associations, the most popular sports for girls in Illinois are basketball, track and field, volleyball, softball and soccer (Figure 5).

Figure 5: Girls' Participation in High School Athletics: Illinois vs. United States*

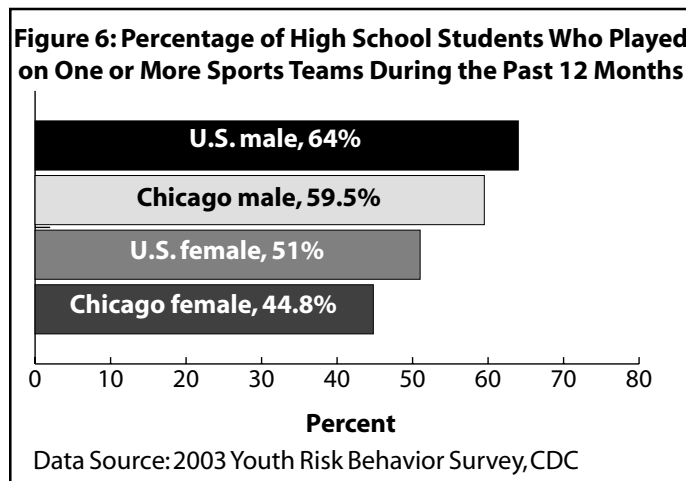
Sport	# Illinois Schools that offer the sport	# Illinois Female Participants	U.S. Ranking (most popular by # participants)
Basketball	671	18,986	1
Outdoor Track & Field	577	16,587	2
Volleyball	695	21,978	3
Softball (fast pitch)	640	18,446	4
Soccer	341	15,082	5
Tennis	328	8,524	6
Cross Country	479	8,125	7
Swimming & Diving	272	7,963	8
Golf	363	3,210	10
Gymnastics	95	1,800	14
Bowling	194	3,269	16

* Only those sports reported to the NFHS survey by Illinois high schools are included in the table above. Not all sports reported on the national level are offered at Illinois high schools.

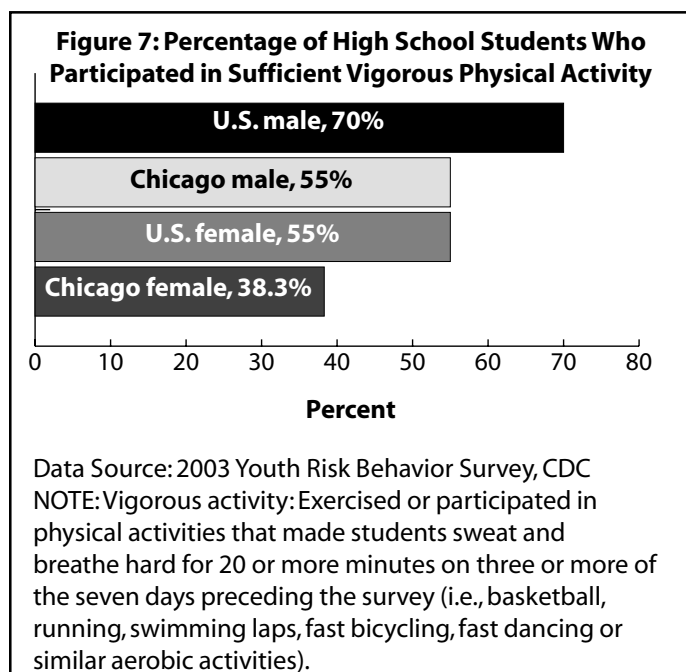
Data Source: National Federation of State High School Associations 2003-04 High School Athletics Participation Survey

Sports Team Participation: While the absolute increase in the number of female high school athletes since the early 1970s has been impressive, the percentage of females playing varsity sports has remained flat over the past three years (Sylwester, 2003). This pattern is due to several factors. First, the addition of new sports for girls has slowed down as school districts across the country struggle to overcome dwindling resources. Second, as school enrollments increase, the percentage of students playing sport drops even though team rosters remain full (Brady and Sylwester, 2003). Finally, as school enrollments grow larger, it becomes increasingly more difficult for females to gain membership on varsity teams. Without an expansion of opportunities for female athletes, the percentage of girls in varsity sports is likely to remain flat for the foreseeable future because it is predicted that high school enrollments will continue to rise until peaking in 2007 when 14.8 million students are expected to enroll. The percentage of Chicago female high school students who played on one or more sports teams (44.8%) is even lower than the national average (51%) (2003 YRBS) (Figure 6).

Females are less likely than males to participate in school sports at older ages. The gender gap is not significant at eighth and 10th grades, but becomes significant by 12th grade – 60.2% of males participate in high school athletics versus 48.7% of females (Child Trends, 2003b).

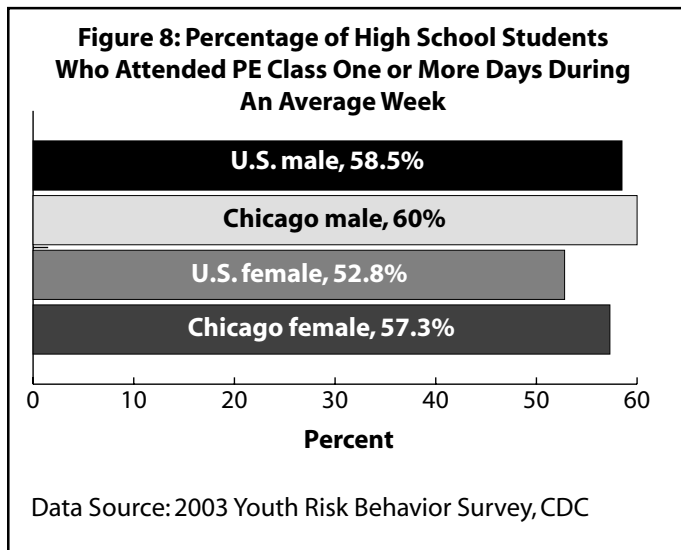


Physical Activity: According to recent 2003 data collected by the CDC, male adolescents (70%) are far more likely to participate in vigorous activity than female adolescents (55%) (Figure 7). White, non-Hispanic females (58.1%) are more likely to participate in vigorous physical activity than Black, non-Hispanic (44.9%) and Hispanic youth (51.8%).

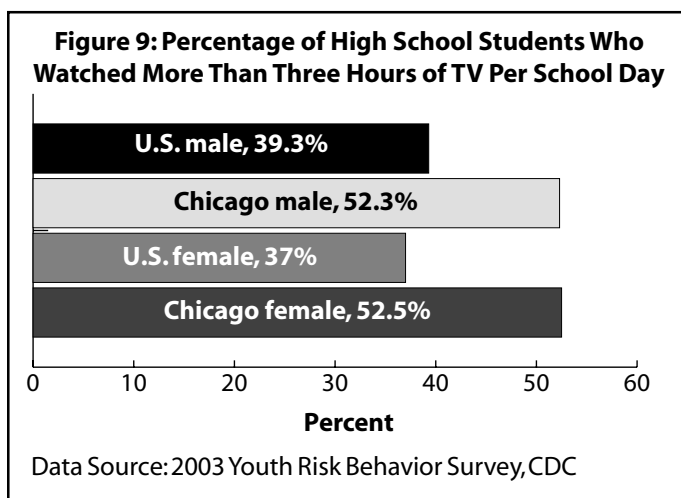


Physical Education Class Attendance: Nationwide 55.7% of male and female students are enrolled in physical education (PE) class. Approximately one-quarter (28.4%) of students nationwide attend PE class daily. There are no significant sex differences in participation in ninth and 10th grade, but male students in grade 11 (30%) are significantly more likely than female students (15.6%) to have attended PE classes daily. In grade 12, males (26.1%) are significantly more likely than female students (14.7%) to have attended daily PE class (CDC, 2002). Of Chicago female youth, 57.3% attend physical education classes one or more days a week, compared with the national average of 52.8% (2003 YRBS) (Figure 8).

Illinois is the only state in the United States that requires enrollment in physical education courses for grades K thru 12. However in 1995, legislation was adopted that allows school districts to apply for waivers if they meet certain criteria. School districts can apply for an exemption if they can address the intent of the mandate in a “more effective, efficient or economical manner, or when necessary to stimulate innovation or improve student performance.” Activities such as varsity sports, marching band, cheerleading, health education and ROTC all qualify as a substitute for physical education courses.

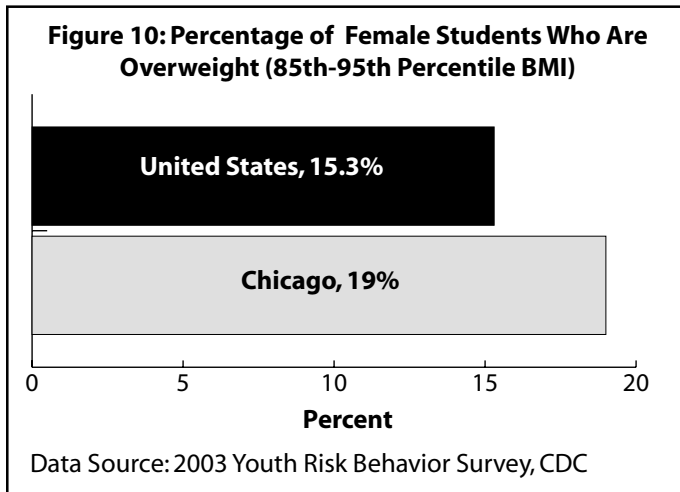


Television Viewing: The amount of television that children view has a direct effect on activity rates and obesity. Children who watch more television tend to exercise less, and low-income children spend more time in front of televisions than their higher-income counterparts (Anderson et al, 1998). Watching television and playing video games are often associated with consuming high-calories snacks. Additionally, children watching television are more exposed to advertising for fast food, sugared breakfast cereals and snacks (Georgia Department of Human Resources, 2000). More than half of female high school students in Chicago (52.5%) watched three or more hours of television compared with the national average of 37%. (2003 YRBS) (Figure 9).



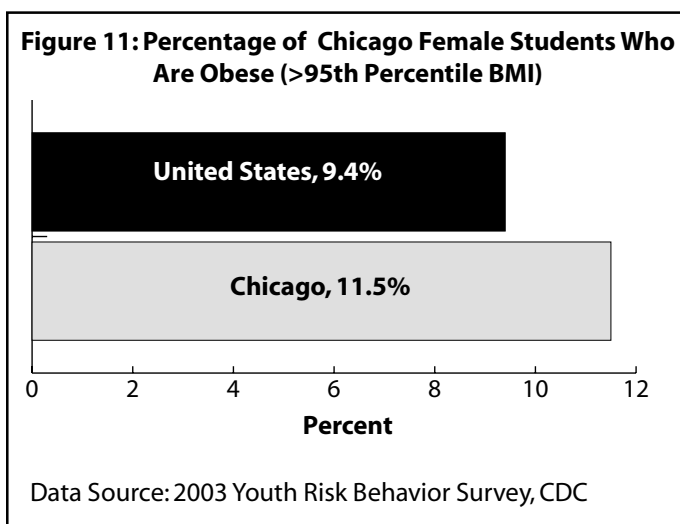
II. Health

Overweight: Defining overweight youth is different than for adults. For adults, body mass index (BMI) is used (a value derived from height and weight) and is generally consistent throughout adulthood. For children, who are continuing to grow, BMI is not an accurate measurement tool. Instead, CDC growth charts are utilized, and percentile cut-offs are set; children are classified as “overweight” when they reach between the 85th and 95th percentile. Chicago female high school students are more likely to be overweight (19%) than the national average of 15.3% (2003 YRBS) (Figure 10).

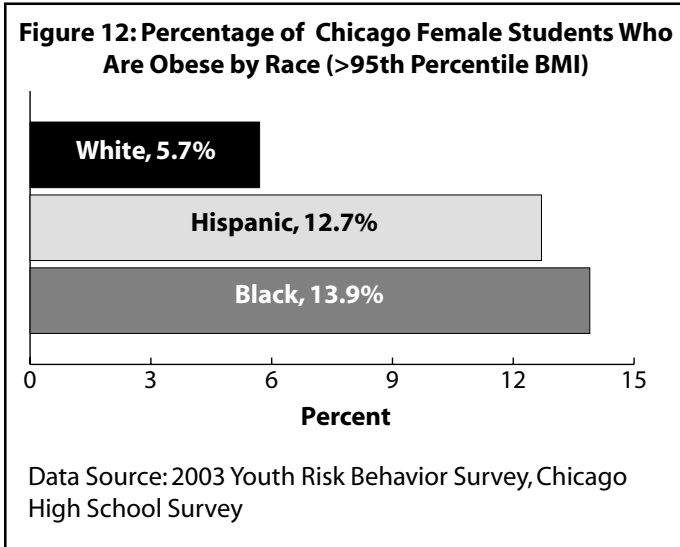


Obesity: Defining obese youth is different than for adults. For adults, body mass index (BMI) is used (a value derived from height and weight), and is generally consistent throughout adulthood. For children, who are continuing to grow, BMI is not an accurate measurement tool. Instead, CDC growth charts are utilized, and percentile cut-offs are set; children are classified as “obese” when they reach above the 95th percentile. For adults, obesity is defined as body mass index (BMI) of 30.0 or more. Obesity is associated with many chronic health problems that can be reduced by weight loss through calorie reduction and increased physical activity.

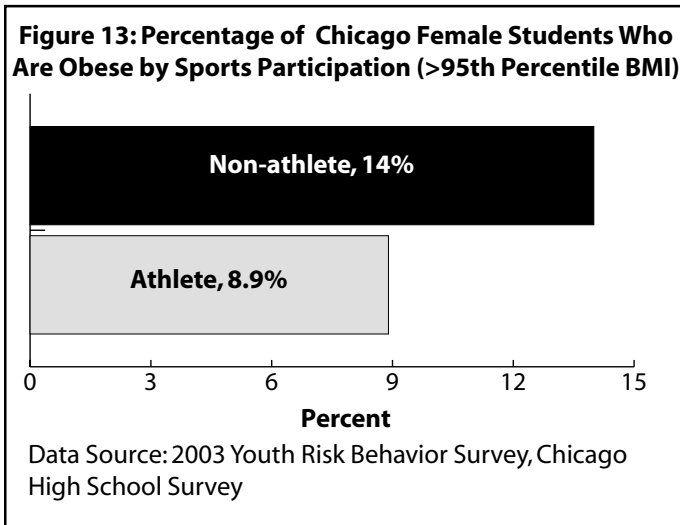
A recent study of Chicago Public Schools, students ages 3-7 years old, revealed that 23% of students are already above the 95th percentile BMI for their age and gender and 15% of children are at risk of becoming overweight (between 85th and 94th percentile BMI). The study was conducted by the Consortium to Lower Obesity in Chicago Children (CLOCC) and included 25 public schools in 19 different Chicago community areas (n = 1,208). Chicago-area female high school students are more likely to be obese (11.5%) than the national average of 9.4% (2003 YRBS) (Figure 11).



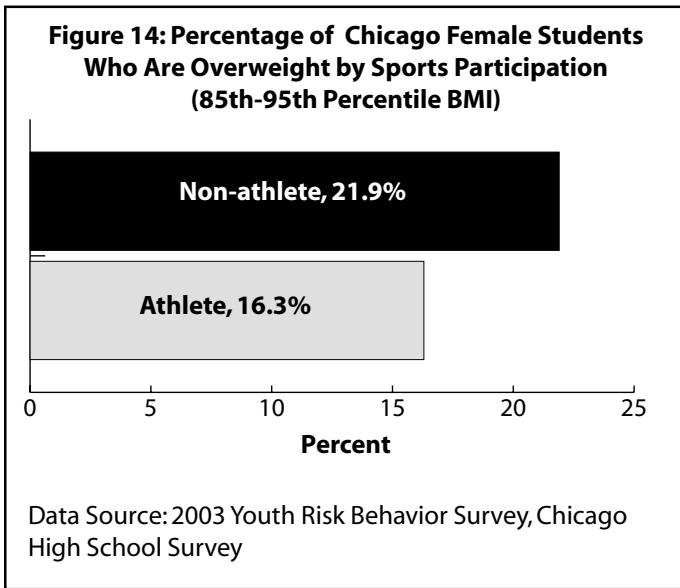
Overall, males and females have similar rates of obesity. However, upon closer examination, there is a gender difference when race and ethnic subgroups are investigated. According to the National Health and Nutrition Examination Survey III (CDC, 1997), female, Black, non-Hispanic (23.6%) students are more likely to be overweight than white, non-Hispanic (12.7%) and Mexican-American (19.9%) females. Chicago 2003 YRBS data also supports this trend, with 13.9% of Black, non-Hispanic female students being obese, compared to 12.7% of Hispanic students and 5.7% of white students (Chicago 2003 YRBS) (Figure 12).



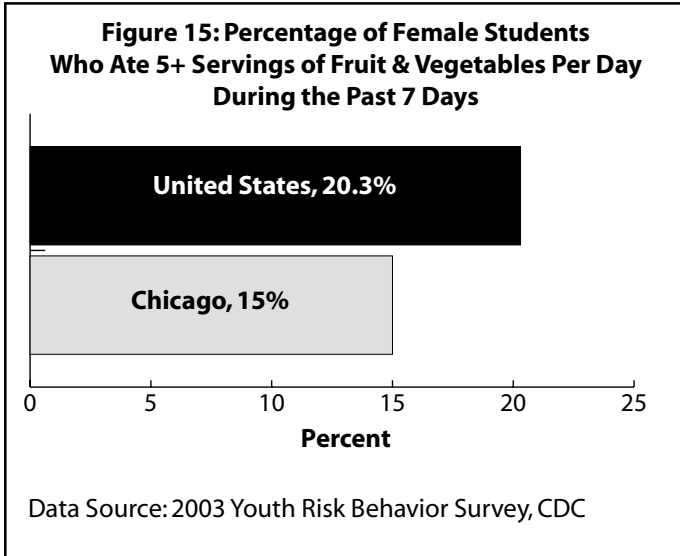
Chicago female high school students who participate in one or more sports are significantly less likely to be obese (8.9%) than female students who do not participate in one or more sports (14%) (Chicago 2003 YRBS) (Figure 13).



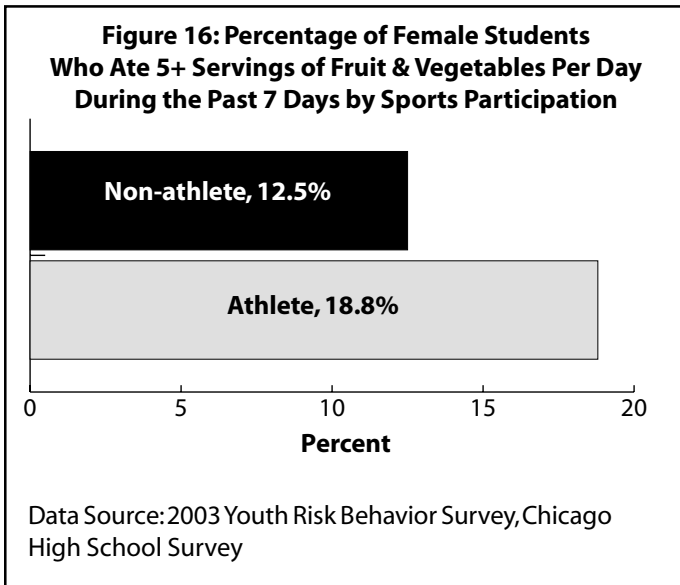
Chicago female high school students who participate in one or more sports are less likely to be at risk of obesity (21.9%) than female students who do not participate in one or more sports (16.3%) (Chicago 2003 YRBS) (Figure 14).



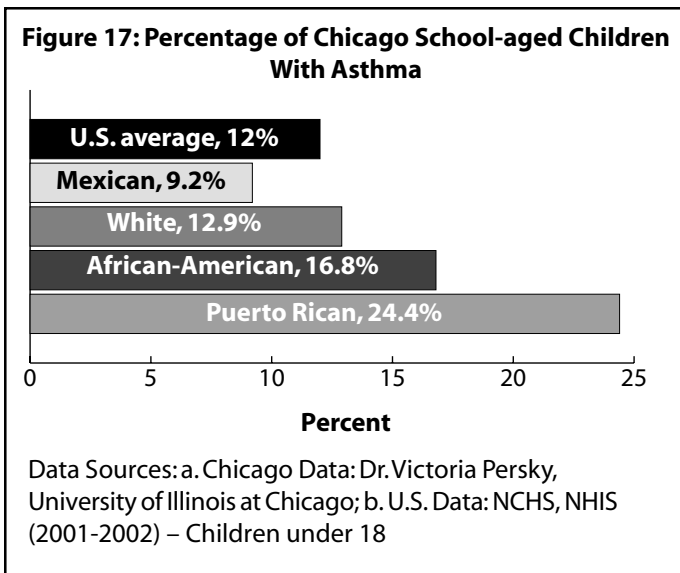
Nutrition: A study of teenage students in Minnesota found that the more often they ate at fast food restaurants each week, the higher the percentage of fat in their average daily diet and the more soft drinks consumed. The fast food restaurant frequenters also ate less fruit, vegetables and milk (French et al, 2001). Chicago-area female high school students are less likely to consume five or more servings of fruits and vegetables per day (15%) than the national average of 20.3% (2003 YRBS) (Figure 15).



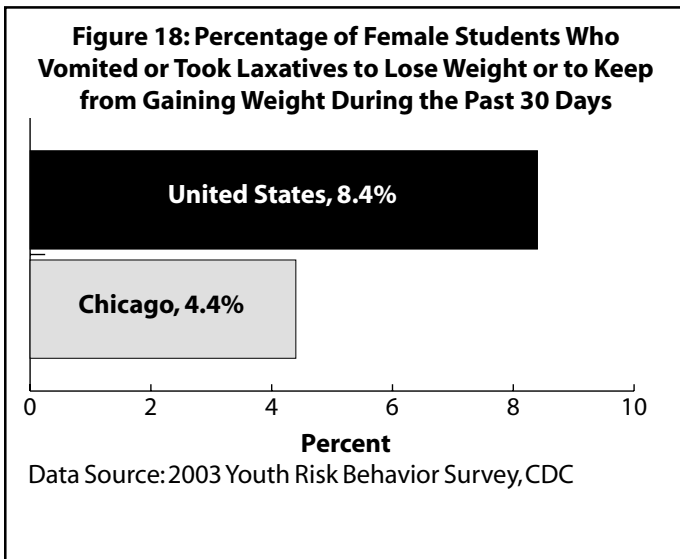
Chicago female high school students who participate in one or more sports are significantly more likely to consume the recommended daily amount of fruits and vegetables (18.8%) than female students who do not participate in one or more sports (12.5%) (Chicago 2003 YRBS) (Figure 16).



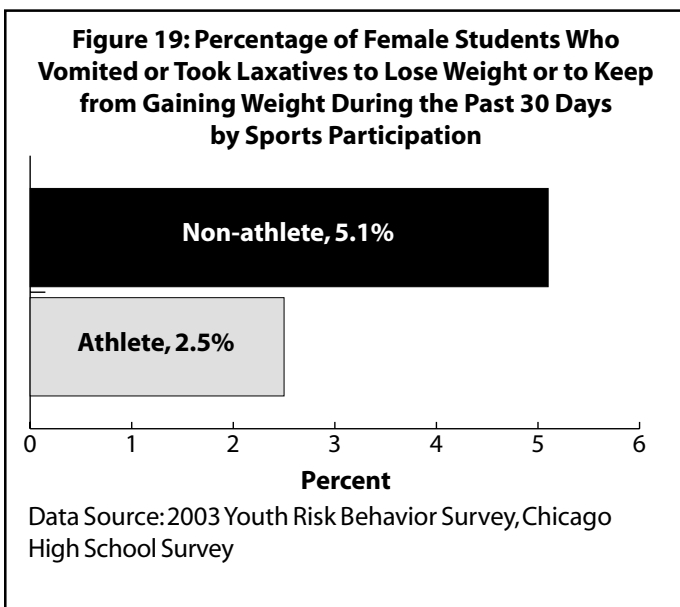
Asthma: Chicago has the highest per capita asthma death rate of any U.S. city – more than 475,000 Chicago residents suffer from asthma. The Chicago asthma hospitalization rate is double the national average. Asthma is the leading cause of hospitalization for children in Illinois (Illinois Health Care Cost Containment Council, 1997). Minority groups in Chicago have much higher rates of asthma than the national average. Twice as many Puerto Rican school-aged children (24.4%) in Chicago suffer from asthma than the national average (12%). African-American school-age children in Chicago are also above the national average at 16.8%. (University of Illinois at Chicago; NCHS, NCHIS) (Figure 17).



Disordered Eating Patterns: Eating disorders are on the rise in the United States, and the highest risk category is adolescent and young adult women (Taub and Blinde, 1992). Over 90% of victims are female, and 86% report onset by age 20 (National Association of Anorexia Nervosa and Associated Disorders, 2004). About 1% of adolescent girls suffer from anorexia nervosa, a condition in which a distorted body image and an intense fear of gaining weight lead to voluntary starvation. Bulimia nervosa, a pattern of binge eating and purging, affects 1-3% of adolescent girls (Hausenblas and Carron, 1999). However, a far higher proportion of girls do not meet the formal criteria for a clinical eating disorder but nevertheless engage in pathogenic weight control techniques, including self-induced vomiting, fasting, use of laxatives, diuretics or diet pills and excessive exercise (Thompson and Sherman, 1999). Pathogenic weight loss behavior is associated with nutritional deficiencies, chronic fatigue, decreased bone density, erosion of tooth enamel, menstrual and reproductive abnormalities, lowered self-esteem, anxiety and depression (Beals, Brey and Gonyou, 1999). Chicago-area female high school students are less likely to engage in pathogenic weight control techniques (4.4%) than the national average of 8.4% (2003 YRBS) (Figure 18).

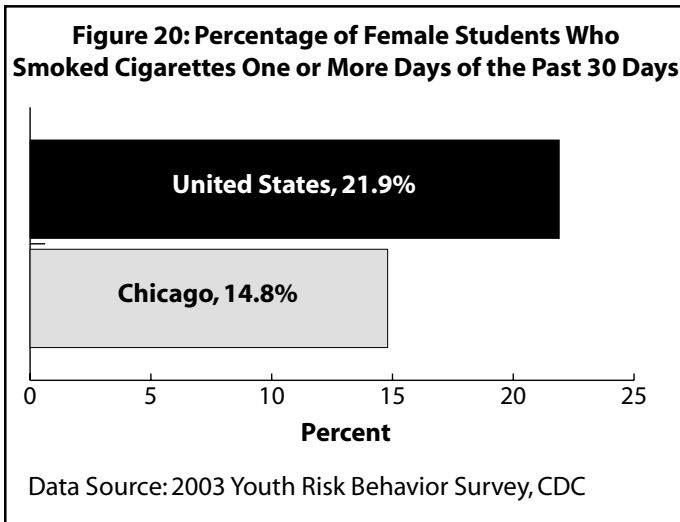


Chicago female high school students who participate in one or more sports are half as likely to vomit or use laxatives to lose weight (2.5%) than female students who do not participate in one or more sports (5.1%) (Chicago 2003 YRBS) (Figure 19).

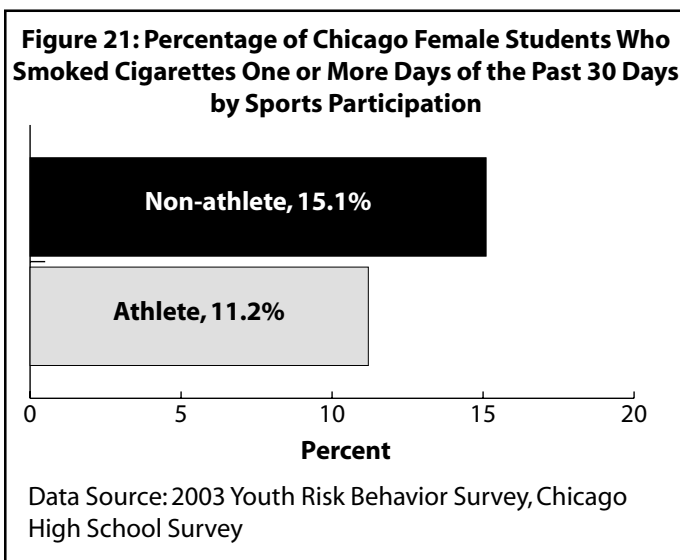


III. Health-risk Behaviors

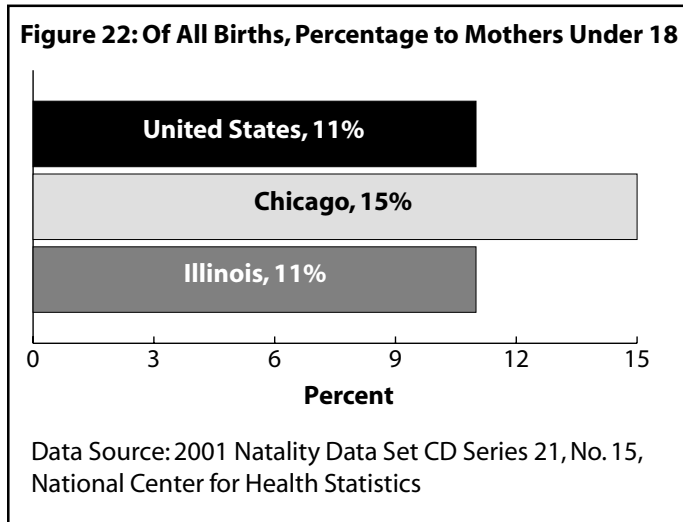
Cigarette Smoking: Approximately 80% of adult smokers began smoking before the age of 18. The earlier tobacco use begins, the more likely a lifestyle pattern will develop that includes tobacco use, resulting in increased risk for tobacco-related illnesses. Yet, tobacco use continues to be popular among adolescents and young adults, with nearly 3,000 young people under the age of 18 becoming regular smokers every day. Chicago-area female high school students are less likely to have smoked cigarettes in the past 30 days (14.8%) than the national average of 21.9% (2003 YRBS) (Figure 20).



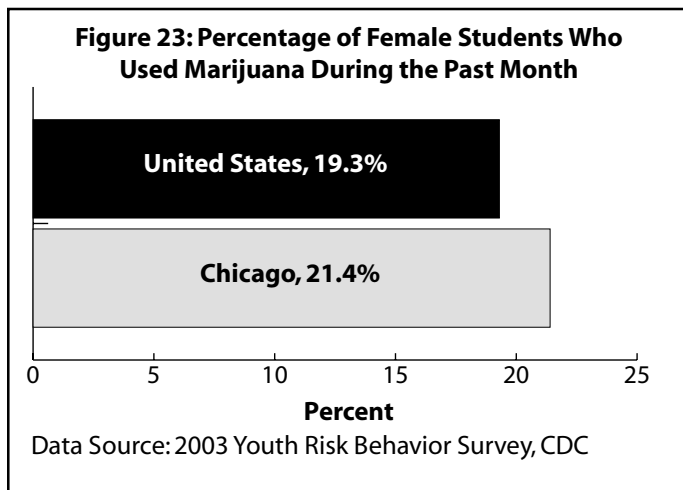
Female athletes on one or two school or community sports teams were significantly less likely to smoke regularly than female non-athletes, and girls on three or more teams were even less likely to smoke regularly (Melnick et al, 2001). Chicago female high school students who participate in one or more sports are less likely to smoke cigarettes (11.2%) than female students who do not participate in one or more sports (15.1%) (Chicago 2003 YRBS) (Figure 21).



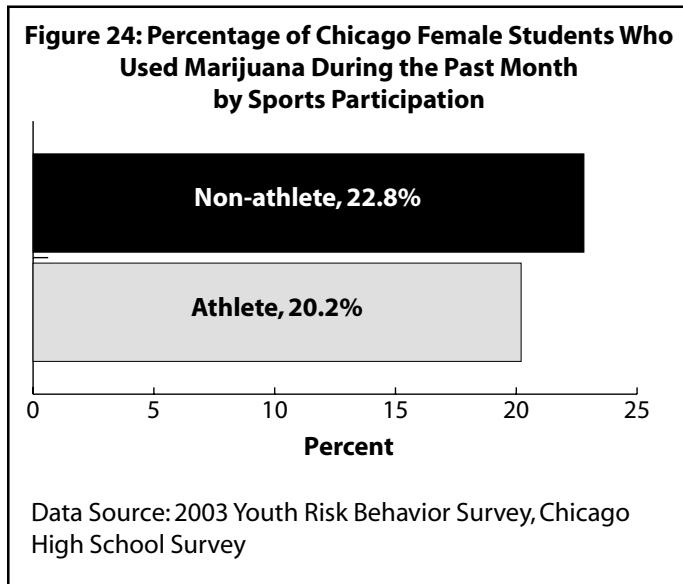
Teen Pregnancy Rates: The United States has the highest teen pregnancy and birth rates in the industrialized world. About 80% of teen pregnancies are unintended (National Campaign to Prevent Teen Pregnancy, 2002). Female athletes are less likely to be sexually active, in part because they tend to be more concerned about getting pregnant than female non-athletes (Dodge & Jaccard, 2002). Chicago-area females have a higher teen pregnancy rate (15%) than the national average of 11% (National Center for Health Statistics, 2001) (Figure 22).



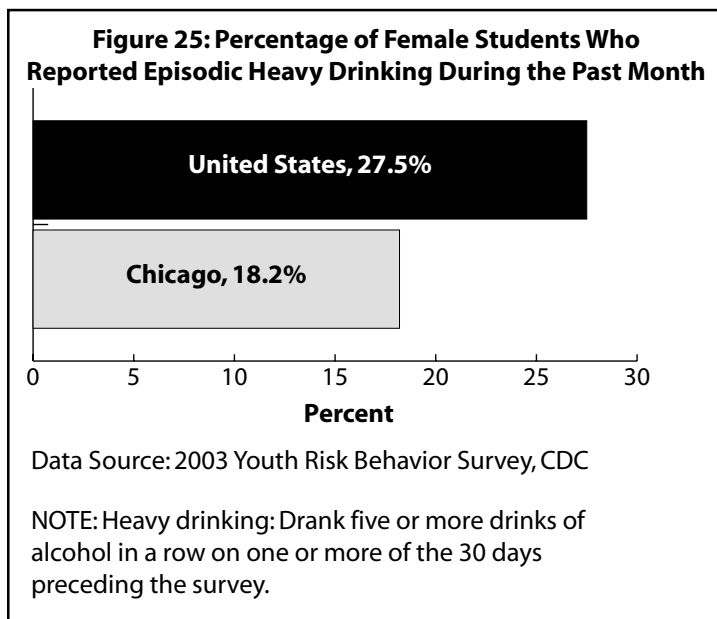
Drug Use: Thirty-eight percent of 12th-grade girls and 18% of eighth-grade girls have used an illicit drug at least once during the past year (Johnston, O'Malley and Bachman 2002). In the Chicago area, female high school students are slightly more likely to have used marijuana during the past month (21.4%) than the national average of 19.3% (2003 YRBS) (Figure 23).



Two nationwide studies found that female school or community athletes were significantly less likely to use marijuana, cocaine or most other illicit drugs, although they were no less likely to use crack or inhalants. This protective effect of sports was especially true for white girls (Miller et al, 2000; Pate et al, 2000). Chicago female high school students who participate in one or more sports are less likely to use marijuana (20.2%) than female students who do not participate in one or more sports (22.8%) (Chicago 2003 YRBS) (Figure 24).

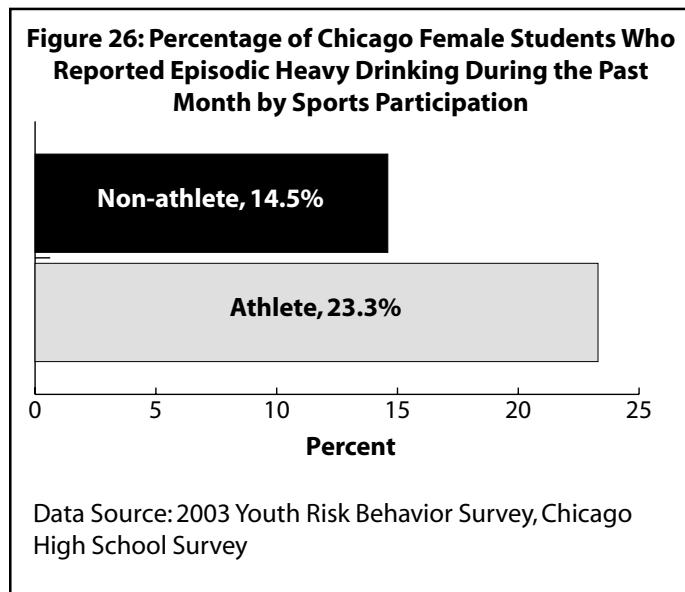


Alcohol Use: For most U.S. adolescents and young adults, alcohol is the drug of choice. Nearly half of all eighth-graders, two thirds of 10th-graders, over 3/4 of high school seniors and 86% of college students have tried alcohol (Johnston, O'Malley and Bachman, 2003). Chicago-area female high school students are less likely to report heavy drinking during the past month (18.2%) than the national average of 27.5% (2003 YRBS) (Figure 25).

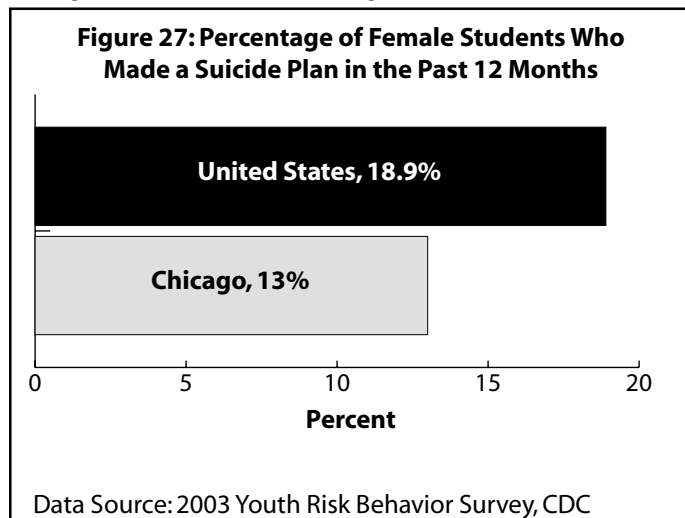


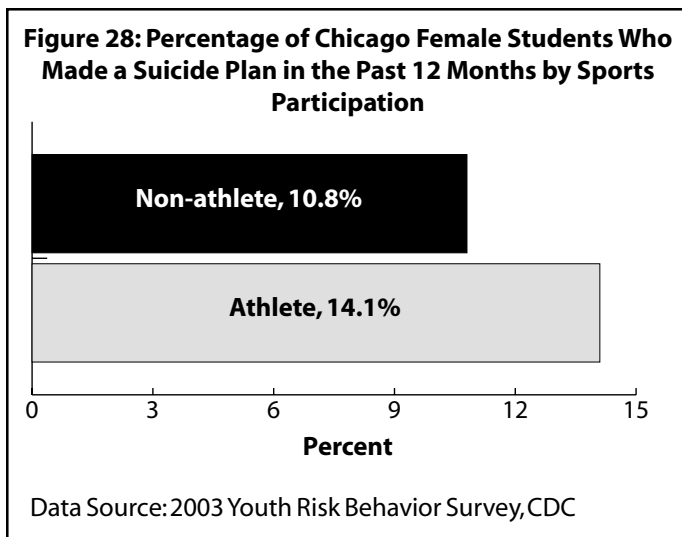
Research on the relationship between youth sports and drinking is mixed. Some studies find that high school or college female sports participation is associated with alcohol consumption (Aaron et al, 1995; Hildebrand, Johnson and Bogle, 2001; Leichter et al, 1998; Nelson and Wechsler, 2001; Rainey et al, 1996; Thombs, 2000; Wechsler et al, 1997), while others do not (Baumert, Henderson and Thompson, 1998; Carr, Kennedy and Dimick, 1996; Higgs, McKelvie and Standing, 2001; Overman and Terry, 1991; Page et al, 1998; Pate et al, 2000). Several prominent theories have been advanced to explain athlete alcohol use, including the idea that athletes drink to self-medicate or reduce the stress of competition and injuries (Heyman, 1996; Leichter et al, 1998; Miller et al, 2002), that the advertising industry reinforces the cultural tradition of drinking to celebrate a win or console a loss (Heyman, 1996; Holman et al, 1997; Madden and Grube, 1994; Slater et al, 1996) or that athletes are exposed to subcultures that are tolerant of, and exaggerate perceived norms of, drinking (Nelson and Wechsler, 2001; Thombs, 2000).

Chicago female high school students who participate in one or more sports are significantly more likely to participate in binge drinking (23.3%) than female students who do not participate in one or more sports (14.5%) (Chicago 2003 YRBS) (Figure 26).



Youth Suicide: Female high school athletes, especially those participating on three or more teams, have lower odds of considering or planning a suicide attempt (Sabo et al, 2004). Chicago-area female high school students are less likely to make a suicide plan (2003 YRBS) (Figure 27). In contrast to the national trend, Chicago female high school students who participate in sports are more likely to make a suicide plan (14.1%) than the national average of 10.8% (2003 YRBS) (Figure 28).





Conclusion

It is clear from the current research that girls in the Chicago area do not get enough physical activity in their daily life. This trend is highlighted by low participation rates in school sports and lack of vigorous physical activity. Additionally, poor nutrition and a high rate of sedentary activity (TV viewing) are only going to increase the current rate of obese and overweight youth in the Chicago area. As obesity rates increase, we will see higher rates of medical problems such as type-2 diabetes, asthma, heart disease and other chronic conditions – not only in youth, but also in adults as the current cohort of youth ages. As indicated by the data, sports team participation does not necessarily provide the measure of protection with regard to binge drinking and suicide for girls in Chicago that has been revealed on a national level. As educators, advocates and coaches work with female student-athletes, they need to pay particular attention to these risk behaviors – not assuming that sports participation will buffer girls from these negative outcomes. Adults who work with female student-athletes in Chicago need to keep their eyes and ears open for signs of these problems with their students, and be prepared with professional help in those areas if the situation arises where there needs to be an intervention. Adults who work with female student-athletes in Chicago need to be particularly sensitive to what environmental factors may influence their female student-athletes to be more prone to these dangerous behaviors and keep these issues in mind as they mentor and coach their athletes.

Two of the main focus areas of Healthy People 2010 (U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion) are Nutrition & Overweight and Physical Activity & Fitness. A specific goal set forth under these objectives is to significantly reduce the proportion of obese and overweight youth to 5%. Currently Chicago is already at twice that level. Unless significant changes occur in the schools or healthcare settings, Chicago is not going to meet the 2010 goal. While it may seem overwhelming to make structural changes at the institutional level, there are opportunities at the community and grass-roots level to make a difference. Organizations at the community level, who are involved with youth on a daily basis through after-school and extra-curricular activities, have the chance to educate youth about the benefits of good nutrition and physical activity. While more nutritious school lunches, more recess time, more frequent physical education courses and more opportunities for sports participation are the ideal solution, there are alternatives. Physical activity and good nutrition must become a lifestyle habit. If opportunities are increased at the community level, such as dance classes, organized sports leagues, or walk-to-school programs, there is more of a chance that youth will begin to make exercise a part of their daily routine. But first the opportunities must be made available to them.

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