

Morbidity and Mortality among Adolescents and Young Adults in the United States

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Adolescents in the United States: By the Numbers

Over 64 million adolescents ages 10 to 24 live in the United States, representing roughly 21% of Americans.¹ In the past ten years, the adolescent population has grown by more than 7%, with the largest gains seen among young adults ages 20 to 24 .¹

Young people in the United States reflect the increasing diversity of American society, as racial and ethnic minority groups continue to expand. Latinos and African Americans account for 20% and 16% of adolescents aged 10 to 19, compared to 18% and 15% of young adults ages 20 to 24. Conversely, while White youth represent 61% of young adults, they account for 58% of adolescents.² This growth of minority communities is expected to continue in the coming decades, with estimates projecting that white youth will account for 48% of adolescents by 2040.³

Other trends seen among adolescent populations in the United States include a rising number of young people living in immigrant families (19% in 1990 to 24% in 2008),⁴ increasing school enrollment, and declining high school dropout rates.⁵ Further, 10.2 million young people lived in poverty in 2006, accounting for 23% of all Americans living in poverty.⁶

Authors

Robert Wm. Blum MD, MPH, PhD
*William H. Gates, Sr. Professor and
Chair*

Farah Qureshi, MHS
Research Program Coordinator

Department of Population, Family
and Reproductive Health
Johns Hopkins Bloomberg School of
Public Health



JOHNS HOPKINS
BLOOMBERG
SCHOOL of PUBLIC HEALTH

Major Causes of Mortality in the Second Decade

Overall, mortality rates have declined among youth in the United States from 76 per 100,000 in 1990 to 60 in 2005.⁵ Although males consistently have a higher mortality rate than females, this downward trend has been observed among both sexes, as well as older and younger adolescents (see Figure 1).⁷ The largest declines in mortality in the past 20 years were seen among males and African American youth. However, racial and ethnic disparities persist, with American Indian/Alaskan Native and African Americans experiencing the highest teen death rates (see Figure 2).⁸

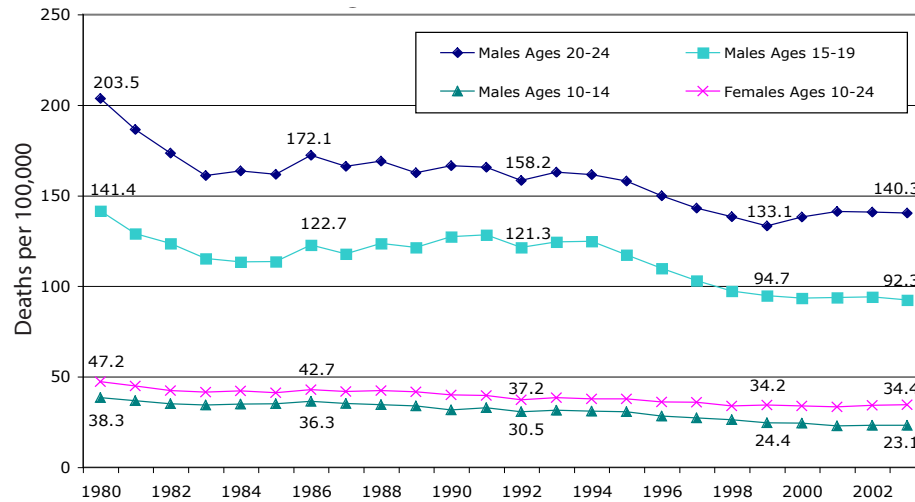
The leading cause of mortality among youth in the United States is unintentional injuries (48%) with motor vehicle

injuries accounting for the majority of these deaths (see Figure 3).⁹ Other leading causes include homicide (13%) and suicide (11%).⁹ Racial and ethnic disparities are also apparent within these groups, as American Indian/Alaskan Native youth experience the highest rate of motor vehicle deaths and suicides, and African Americans the highest rate of homicides.⁵

Injuries

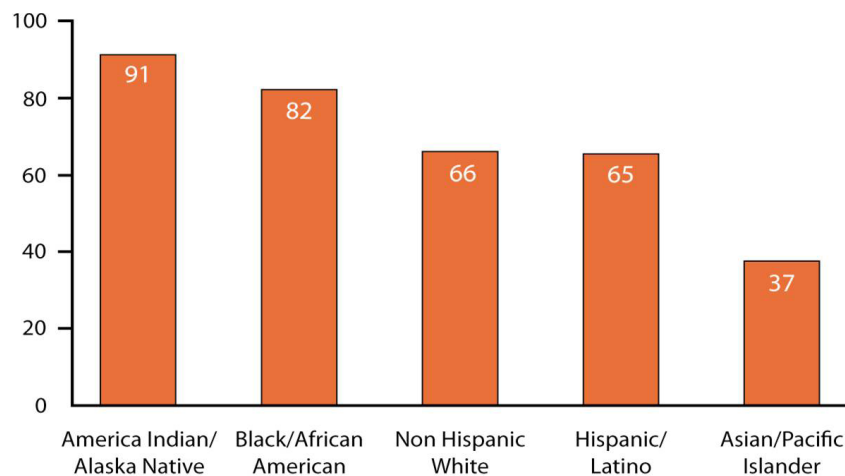
Nearly 75% of all deaths in the second decade result from unintentional injuries, including vehicular injuries, unintentional poisoning, unintentional drowning, and unintentional discharge of a firearm (see Figure 3). Between the ages of 10 and 18, deaths due to unintentional injuries increase dramatically from 47% to 81%.⁵ Consistently, males face a greater risk, as the mortality rate due to unintentional injury for

Figure 1: Trends in Adolescent Mortality Rates by Gender and Age, 1980-2003



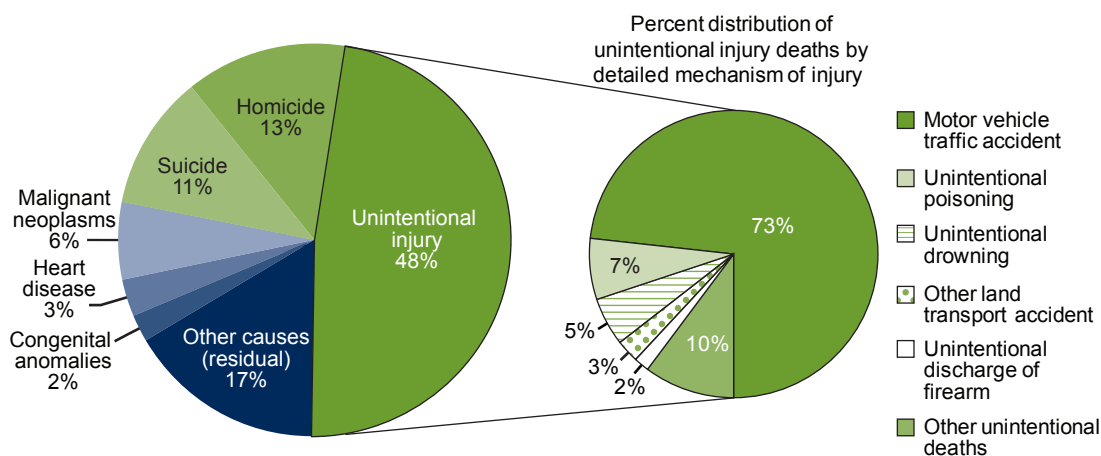
Source: National Adolescent Health Information Center, 2006

Figure 2: Teen Death Rates by Race/Ethnicity, 2002-2003



Source: United States Census Bureau, 2011

Figure 3: Percent Distribution of all Deaths to Teenagers 12-19 Years by Cause of Death, 1999-2006



Source: National Vital Statistics System, 2010

males is 39 deaths per 100,000 compared to 14 deaths per 100,000 for females.⁵

Vehicular deaths are the primary cause of mortality for youth in the United States, with contributing factors including lack of driving experience as well as presence of other teenage passengers and alcohol use.¹⁰ Since 1980s, motor vehicle death rates have declined significantly from 42 deaths per 100,000 to 23 deaths per 100,000 in 2006.¹⁰ Nevertheless, alcohol consumption continues to significantly influence vehicular mortality rates among young people. In 2007, alcohol involvement in fatal crashes was reported for 23% of drivers aged 16 to 20 and 41% of drivers aged 21 to 24.⁵

While structural changes, such as improved roads, breakaway lights, and wider median dividers, as well as the implementation of new laws, including mandatory seat belt laws, graduated licenses, and limitations on the number of passengers riding with new drivers have successfully contributed to the reducing motor vehicle mortality rates, declines are also credited largely to behavior change. From 1991 to 2009, the percent of teens who reported never wearing a seatbelt declined from 25.9% to 9.7%.¹¹ Further, while 40% of teens in 1991 reported riding with a driver who had been drinking, that figure dropped to 28% in 2009.¹¹ Similarly, 17% of teens reported that they drove after drinking in 1991, compared to less than 10% in 2009.¹¹

Violence

Weapon-Related Violence

Homicide is the second leading cause of death for youth ages 10 to 24, and 82% of homicides are firearm-related.⁵ As a

nation, the United States has a higher firearm mortality rate among children and youth than the next highest industrialized nations of the world combined (see Figure 4).¹² Since 1993, homicide rates for teens ages 15 to 19 has declined significantly, from 20.7 deaths per 100,000 to 10.4 deaths per 100,000 in 2007 (see Figure 5).¹³

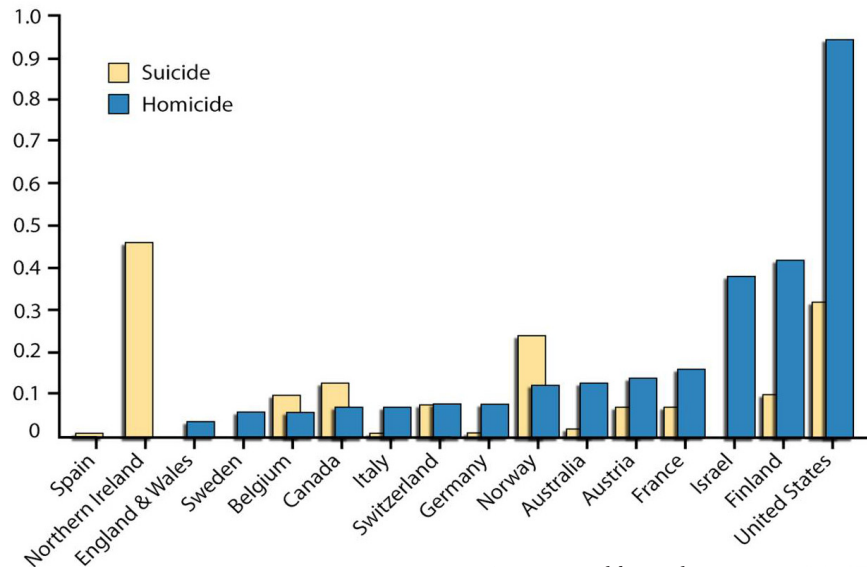
Weapon-carrying among youth has also declined. In 2009, 5.6% of students reported carrying a gun to school in the preceding 30 days, compared to 11.8% in 1993.¹⁴

Suicide

One-third of all firearm deaths among adolescents are the result of suicide. Between 1994 and 2006, teen suicide rates have dropped from 11.1 per 100,000 to 6.9 per 100,000.¹³ Although adolescent females are more likely to attempt suicide than males, males are four times more likely to die from suicide.¹³ As a result, roughly 83% of suicide deaths were males.¹⁵ Disparities also exist between racial and ethnic groups, as Native American/Alaskan Native and Hispanic youth experience the highest suicide rates.¹⁵

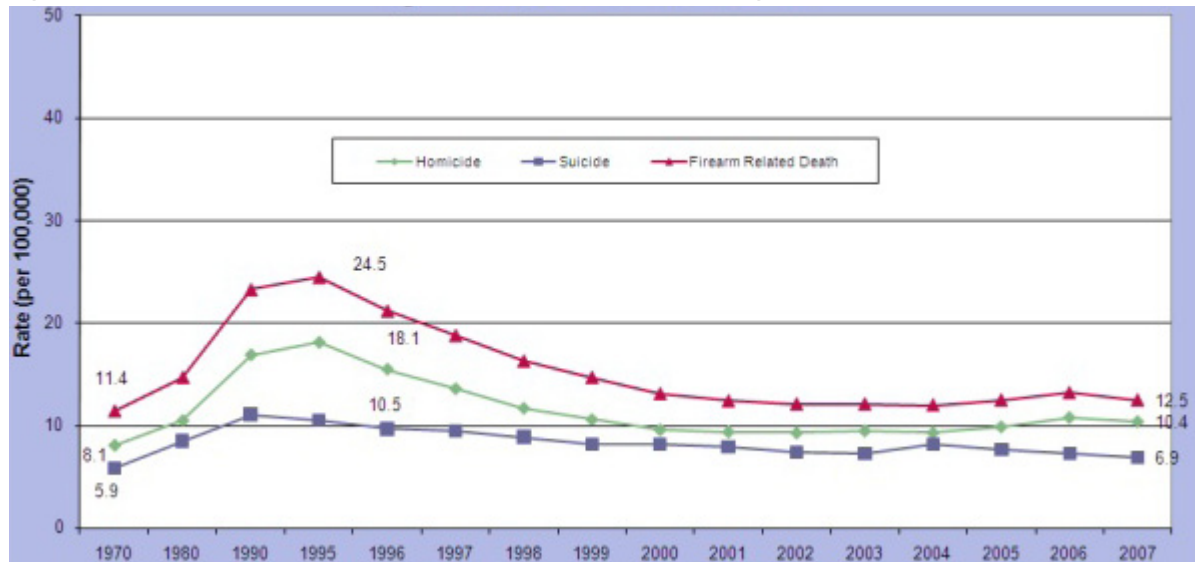
According to the Youth Risk Behavior Survey, 13.8% of youth contemplated suicide in 2009, and 10.9% of youth reported having made a plan about how they would attempt suicide.¹⁶ These numbers illustrate a downward trend since 1991, when 29% of youth considered attempting suicide, and 19% made a plan.¹⁶ Despite decreases in contemplated suicide, rates of attempted suicide have not changed significantly, with 6.3% of young people reporting attempted suicide in 2009 compared to 7.3% in 1991.¹⁶

Figure 4: Percentage of Firearm-Related Deaths per 100,000 Juveniles, Ages 0-14, by Country



Source: World Development Report, 2007

Figure 5: Homicide, Suicide and Firearm-Related Deaths of Youth Ages 15-19, 1970-2007



Source: Child Trends, 2010

Major Causes of Morbidity in the Second Decade

Substance Use

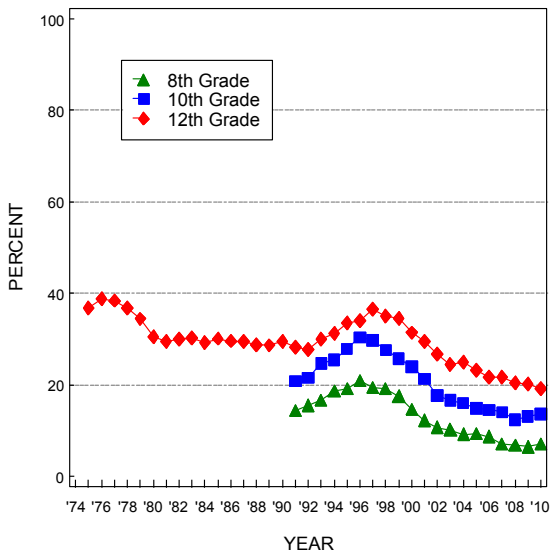
Since the 1980s, adolescent substance use has declined, due in part to decreases in tobacco, alcohol, and drug use. In 2009, past month alcohol use among 12th graders was 42%, compared to 51% in 1991.¹⁷ Nevertheless, alcohol use increases from adolescence to young adulthood, and has a higher prevalence among males compared to females.⁵ Similarly, American Indian/Alaskan Native and White youth report the highest rates of alcohol consumption, while Black and Asian youth report the lowest.⁵

Cigarette use has also declined since the early 1990s, with 20% of high schoolers reporting past month cigarette smoking in 2009 compared to 28% in 1991.¹⁸ As seen with alcohol consumption, smoking rates increase between adolescence and young adulthood (see Figure 6).¹⁹

Illicit drug use among adolescents has remained fairly constant since 1991.²⁰ In 2008, more than one in twelve 12th grade students reported the use of illicit drugs other than marijuana in the past month.²¹ Highest rates of past month drug use were seen among American Indian/Alaskan Native and White adolescents.⁵

With respect to substance abuse, rates of dependence did not change from 2000 to 2007 for 12 to 17 year olds (8%), but

Figure 6: Percent of 8th Grade, 10th Grade, and 12th Grade Students who Smoked Cigarettes on One or More of the Past 30 Days, 1974-2010



Source: *Monitoring the Future, 2010*

increased from 15% to 21% for 18 to 25 year olds.⁵ Among young adults, males report higher rates of substance abuse or dependence than females, and American Indian/Alaskan Natives reported the highest rates compared to other racial and ethnic groups.⁵

Sexual and Reproductive Health

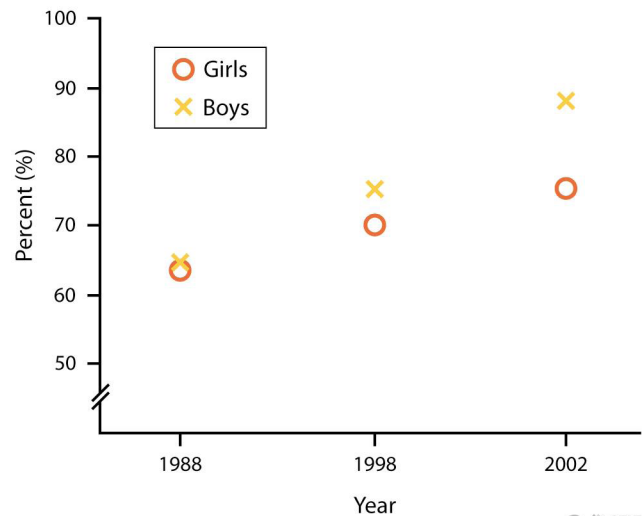
While the average age of first sex in the United States is 17, the median age of marriage is in the mid-20s, resulting in adolescents facing an increased risk of unwanted pregnancy and sexually transmitted infections (STIs).^{22, 23} By age 15, roughly 13% of American teens have ever had vaginal sex.²² Among high school students, almost half report ever having sexual intercourse, compared to four fifths of young adults ages 18 to 24.⁵

Teenage Pregnancy

Nearly 750,000 women ages 15 to 19 become pregnant every year.²² In 2005, adolescent pregnancy rates were at the lowest point since 1969 (70 per 1,000 women aged 15 to 19); however in recent years, rates have slightly increased (72 per 1,000 in 2006).²² This overall decline in teen pregnancy is attributed in part to increases in consistent contraceptive use (see Figure 7). Over the past 20 years, condom use at last intercourse among adolescents has increased from 46% in 1991, to 61% in 2009.²⁴ Between 2006 and 2008, about 84% of female teens and 93% of male teens reported using contraceptives at last sex, compared to 71% and 82% in 1995.²²

Despite increasing contraceptive use, teen pregnancy rates in the United States remain among the highest of industrialized nations: more than twice that of Canada (28 per 1,000 women aged 15 to 19 in 2006) and Sweden (31 per 1,000).²² In 2005, New Mexico reported the highest teenage pregnancy rate in the country, followed by Nevada, Arizona, Texas, and Mississippi (see Figure 8).²² Racial and ethnic disparities also persist, with Black and Hispanic women experiencing the highest pregnancy rates (126 and 127 per 1,000 ages 15 to 19).²²

Figure 7: Trends in Contraceptive Use at First Sex Among Adolescents Ages 15-19, 1988-2002



Source: *Child Trends, 2006*

Sexually Transmitted Infections

Despite representing only a quarter of the sexually active population, nearly half of all STIs (48%) occur in youth 15 to 24 years of age.²⁵ Human Papillomavirus accounts for half of STI infections among adolescents (see Table 1).²⁵

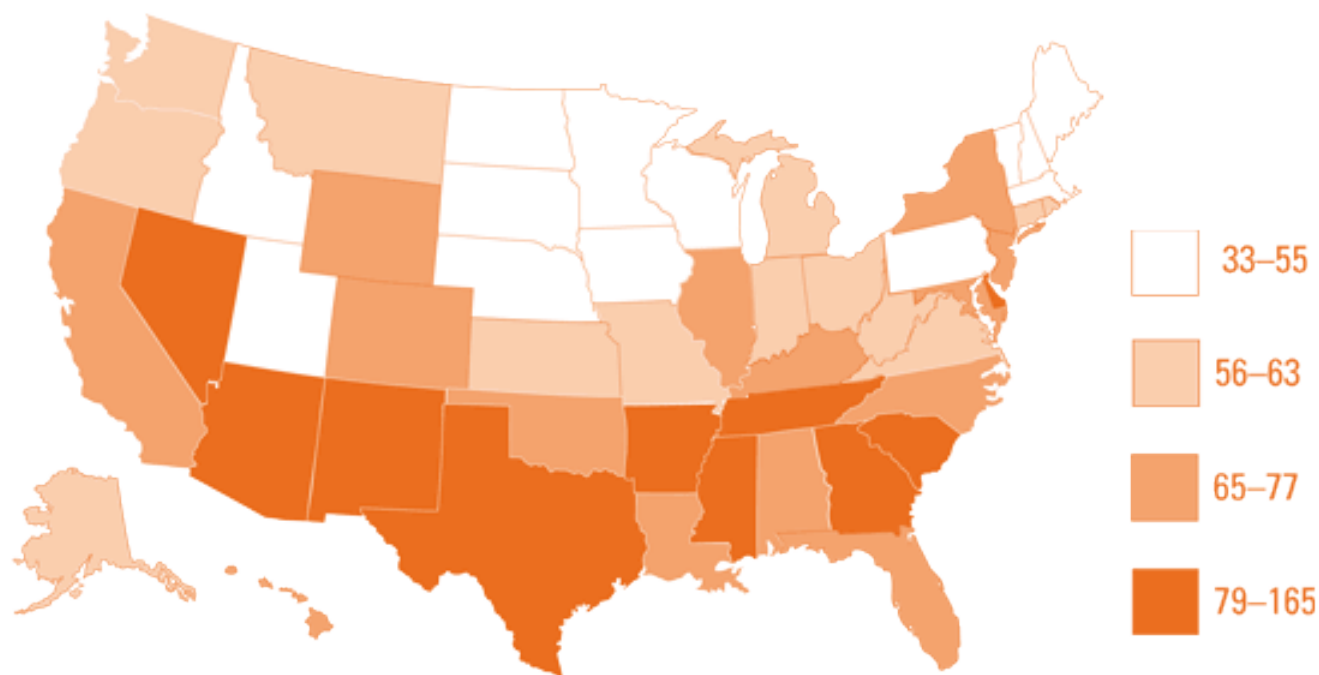
In 2008, 17% of new HIV diagnoses were among adolescents aged 13 to 24.²² Estimated numbers of new HIV/AIDS cases are highest for Black youth.

Table 1: Incidence of STIs Among Youth in the United States

Sexually Transmitted Infection	Number of Cases
Human Papillomavirus	4.6 million
Trichomoniasis	1.9 million
Chlamydia	1.5 million
Genital Herpes	640,000
Gonorrhea	431,000
HIV	15,000
Syphilis	8,200

Source: *Centers for Disease Control and Prevention, 2010*

Figure 8: Teen Pregnancy Rates by State in 2005



Note: Includes estimated number of pregnancies ending in miscarriage or stillbirth.

Source: Guttmacher Institute, 2011

Obesity

Over the last 20 years, the US has experienced a dramatic increase in obesity. In 1991, only four states reported an obesity prevalence rate between 15 and 19%, and no states reported rates at or above 20%. In 2009, every state except for Colorado reported an obesity prevalence rate at or above 20%, with 9 states exceeding 30%.²⁶

Among adolescents, obesity has increased steadily. Between 1980 and 2008, obesity among adolescents aged 12 to 19 increased from 5% to 18%.²⁷ Obesity rates vary by race and ethnicity, with Black females and Mexican American males reporting the highest rates (29% and 27%), and White males and females reporting the lowest (17% and 15%).²⁸

Obesity trends among adolescents are largely driven by unhealthy behaviors and decreases in physical activity both inside and outside of school. In 2009, 29% of youth reported drinking a sugared beverage at least once daily, and 67% of youth reported not attending physical education classes while in school.^{27, 29}

References

1. Howden LM, Meyer JA. (2011). Age and Sex Composition: 2010. United States Census Bureau. Accessed at: <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>. Retrieved on: 20 June 2011.
2. United States Census Bureau. (2010). Annual Estimates of the Resident Population by Race, Hispanic Origin, Sex and Age for the United States: April 1, 2000 to July 1, 2009. Accessed at: <http://www.census.gov/popest/national/asrh/NC-EST2009-asrh.html>. Retrieved on: 20 June 2011.
3. United States Census Bureau. (2008). National Population Projections. Accessed at: <http://www.census.gov/population/www/projections/2008projections.html>. Retrieved on: 20 June 2011.
4. United States Census Bureau. (2009). Statistical Abstract for the United States. Accessed at: <http://www.census.gov/prod/2008pubs/09statab/pop.pdf>. Retrieved on: 20 June 2011.
5. Mulye TP, Park MJ, Nelson CD, Adams SH, Irwin CE, Brindis CD. (2009). Trends in Adolescent and Young Adult Health in the United States. *Journal of Adolescent Health*. 45: 8-24.
6. Kids' Count 2010, Anne E. Casey Foundation, Baltimore, MD. 2011

7. National Adolescent Health Information Center. (2006) Fact Sheet on Mortality: Adolescents and Young Adults. Accessed at: <http://nahic.ucsf.edu/downloads/Mortality.pdf>. Retrieved on: 20 June 2011.
8. United States Census Bureau. (2011). Death Rates by Age, Sex, and Race: 1950-2007. Accessed at: <http://www.census.gov/compendia/statab/2011/tables/11s0108.pdf>. Retrieved on: 20 June 2011.
9. Minino AM. (2010). Mortality Among Teenagers Aged 12-19 Years: United States, 1999-2006. NCHS Data Brief. 37. Accessed at: <http://www.cdc.gov/nchs/data/databriefs/db37.pdf>. Retrieved on: 20 June 2011.
10. Child Trends. (2010). Motor Vehicle Deaths. Accessed at: <http://www.childtrendsdatabank.org/?q=node/176>. Retrieved on: 20 June 2011.
11. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Behaviors that Contribute to Unintentional Injury, 1991-2009. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_injury_trend_yrbs.pdf. Retrieved on: 20 June 2011.
12. World Development Report, 2007, The World Bank, Washington, DC, 2007
13. Child Trends. (2010). Teen Homicide, Suicide, and Firearm Deaths. Accessed at: <http://www.childtrendsdatabank.org/?q=node/124>. Retrieved on: 20 June 2011.
14. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Behaviors that Contribute to Violence, 1991-2009. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_violence_trend_yrbs.pdf. Retrieved on 20 June 2011.
15. Centers for Disease Control and Prevention. (2008). Youth Suicide. Accessed at: <http://www.cdc.gov/ncipc/dvp/suicide/youthsuicide.htm>. Retrieved on: 20 June 2011.
16. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Suicide-Related Behaviors. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_suicide_trend_yrbs.pdf. Retrieved on: 20 June 2011.
17. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Alcohol Use. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_alcohol_trend_yrbs.pdf. Retrieved on: 20 June 2011.
18. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Tobacco Use. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_tobacco_trend_yrbs.pdf. Retrieved on: 20 June 2011.
19. Monitoring the Future. (2010). Cigarettes: Trends in 30-Day Use, Risk, Disapproval, and Availability, Grades 8, 10, and 12. Accessed at: http://www.monitoringthefuture.org/data/10data/cfig10_1.pdf. Retrieved on: 20 June 2011.
20. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Marijuana, Cocaine, and Other Illegal Drug Use. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_drug_trend_yrbs.pdf. Retrieved on: 20 June 2011.
21. Child Trends. (2010). Illicit Drug Use. Accessed at: <http://www.childtrendsdatabank.org/?q=node/281>. Retrieved on: 20 June 2011.
22. Guttmacher Institute. (2011). Facts on American Teens' Sexual and Reproductive Health. Accessed at: <http://www.guttmacher.org/pubs/FB-ATSRH.pdf>. Retrieved on: 20 June 2011.
23. United States Census Bureau. (2006). Estimated Median Age at First Marriage by Sex: 1890 to the Present. Accessed at: <http://www.census.gov/population/socdemo/hh-fam/ms2.pdf>. Retrieved on: 20 June 2011.
24. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Sexual Behaviors, 1991-2009. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_sexual_trend_yrbs.pdf. Retrieved on: 20 June 2011.
25. Centers for Disease Control and Prevention. (2010). STDs in Adolescents and Young Adults. Accessed at: <http://www.cdc.gov/std/stats09/adol.htm>. Retrieved on: 20 June 2011.
26. Centers for Disease Control and Prevention. (2011). US Obesity Trends: Trends by State, 1985-2009. Accessed at: <http://www.cdc.gov/obesity/data/trends.html>. Retrieved on: 20 June 2011.
27. Centers for Disease Control and Prevention. (2010). Childhood Obesity. Accessed at: <http://www.cdc.gov/healthyyouth/obesity/>. Retrieved on: 20 June 2011.
28. Schwartz SW, Peterson J. (2010). Adolescent Obesity in the United States. National center for Children in Poverty. Accessed at: http://www.nccp.org/publications/pdf/text_977.pdf. Retrieved on: 20 June 2011.
29. Youth Risk Behavior Survey. (2009). Trends in the Prevalence of Obesity, Dietary Behaviors, and Weight Control Practices, 1991-2009. Accessed at: http://www.cdc.gov/healthyyouth/yrbs/pdf/us_obesity_trend_yrbs.pdf. Retrieved on 20 June 2011.

