



# External Causes of Death in Indiana: Race, Age, and Gender Risks

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## The Center for Urban Policy and the Environment

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*Note: This technical report is the second in a series of reports and issue briefs on external causes of death in Indiana. The first report presented information about external causes of death—accidents, suicides, and homicides—among Hoosiers from 1981-2004, including basic demographic descriptions of the age, gender, and race patterns of those who die from external causes of death. The current report continues this work focusing on race, age, and gender interaction effects among persons dying from external causes of death in Indiana and the United States. The interaction between race, age, and gender is considered for the purpose of identifying demographic groups with elevated risk for these causes of death. Two future reports will focus on child deaths and gun deaths in Indiana.*



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# ACCIDENTS, SUICIDES, AND HOMICIDES: AN ANALYSIS OF RACE, GENDER, AND AGE INTERACTIONS

<sup>1</sup>These reports uses the term "cause of death" in a layperson fashion. Technically, the manner of death in most states can be either natural, accident, homicide, suicide, or undetermined. The specific causes of death would be such categories as motor vehicle accident, drowning, gunshot, knife, etc. For simplification, we use the term "external causes of death" to refer to both the manner and cause of death. Additionally, the exact determination of the manner of death can be difficult. Was a gunshot wound accidental, homicide, or suicide? Readers interested in the extent to which certain types of external deaths may be underestimated (e.g., suicides) are referred to A Guide for Manner of Death Classification. National Association of Medical Examiners. Prepared by Randy Hanzlick, John C. Hunsaker, Gregory J. Davis. February 2002.

<sup>2</sup>Quinet and Newby. (December 2007). External causes of death: A description of accidents, suicides, and homicides. Indiana University School of Public and Environmental Affairs, Center for Urban Policy and the Environment.

<sup>3</sup>The Office of Minority Health, U.S. Department of Health and Human Services, African American Profiles. [www.omhrc.gov/templates/browse.aspx?1v1=2&1v1ID=51](http://www.omhrc.gov/templates/browse.aspx?1v1=2&1v1ID=51) retrieved November 6, 2007.

<sup>4</sup>Black American Men's Health. [www.menshealth.about.com/od/blackhealth/a/Af\\_amer\\_stats.htm?p=1](http://www.menshealth.about.com/od/blackhealth/a/Af_amer_stats.htm?p=1). Retrieved August 8, 2007.

Earlier work on external causes of death<sup>1</sup> in Indiana described the patterns of deaths from accidents, suicides, and homicides for blacks and whites, males and females, and various age groups from the very young to the very old.<sup>2</sup> Significant differences were discovered regarding the likelihood that various demographic groups suffered a fatal accident, committed suicide, or were a homicide victim. In addition, the previous report described trends in the five leading accidental death categories—motor vehicle accidents, overdoses/poisonings, falls, drowning, and fires/burns—and the proportion of external causes of death that these accidents, homicides, and suicides accounted for in each age, race, and gender group.

Given the significant race patterns discussed in the previous report and the dramatic racial differences for major causes of death such as heart disease, cancer, and stroke, further inspection of the race patterns is warranted. What the earlier work did not do was analyze the interaction effects of race, gender, and age in order to answer questions about how risk of dying from external causes is spread across different demographic groups. For which specific groups are there elevated risks of motor vehicle accidents? Young white males? Elderly white females? Black suicide rates have increased—is this increase across the board or specific to certain black gender and age categories? Homicide victimization has always disproportionately affected young black males—is this still true? As homicide rates have declined, have the rates also declined for young black males?

Research on mortality from the major natural causes of death finds inflated death rates for blacks from natural causes

of death—heart disease, stroke, cancer, diabetes, and HIV/AIDS.<sup>3</sup> Black men have disproportionately higher death rates (2001 deaths) for all leading causes of death and live seven years less than other groups.<sup>4</sup> The present research looks at the levels of racial disparity for the non-natural, external causes of death—accidents, suicides, and homicides—paying particular attention to age- and gender-specific trends for blacks and whites. With precise analysis of exactly where inflated risks of death lie, we can potentially strategically target intervention and prevention resources. Rather than think narrowly about criminal justice issues and focus only on violent deaths such as homicide, strategic plans that include the prevention of traffic accidents, fires, accidental drug overdoses, suicides, and homicides are all part of a broader public safety perspective and may identify groups that are at higher risk for several types of external causes of death.

## 2000: A reversal in race trends in overall accidental deaths in Indiana

Previous research found that during the time series of study, 1981-2004, Indiana blacks typically had higher overall accident rates than whites, but by 2000, Indiana black accidental death rates had fallen below the rate for Indiana whites (Figure 1).<sup>5</sup> Compared to the United States, the overall accidental death rate for Indiana blacks was below the U.S. rate from 1981-1998. But due primarily to a decline in U.S. accident rates for blacks, the Indiana black accident rate has converged with national rates (both rates approximately 38/100,000 by 2004), and white Indiana rates have converged with national white rates.

As illustrated in Table 1, for both blacks and whites in Indiana and the United States, the overall accidental death rate is much higher for males than for females. The white male rate is higher than the black male rate in Indiana, and the white female rate significantly exceeds the black female rate in both Indiana and

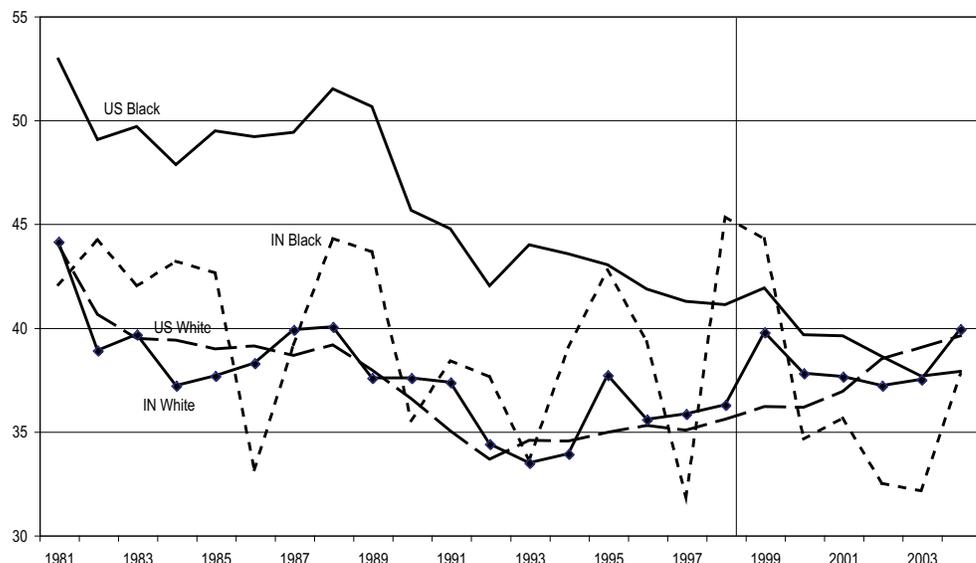
the United States. Comparing the groups with the highest rates (white males) in both Indiana and the United States to those with the lowest rates (black females) finds that white males are nearly two and one-half times more likely to suffer a fatal accident than are black females.

In addition to variations among demographic groups for all accidents, there is significant variation among groups when considering accident subcategories—motor vehicle deaths, accidental overdoses, falls, drownings, and fires. A closer inspection of the race patterns within each specific accident category and analysis of which age and gender groups of blacks and whites are most susceptible to accidental death will help us make more informed public safety policy decisions.

**Table 1.** Accident death rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	53.6	55.9	24.1	23.2
White	55	54.3	27	26.1

**Figure 1.** Accidental death rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004



<sup>5</sup>The data source for this analysis is the Centers for Disease Control and Prevention, National Center for Health Statistics' WONDER On-line Database (<http://wonder.cdc.gov/welcome.html>). Rates discussed and presented in tables and figures are either age-adjusted or crude and are identified as such. In addition, all figures contain a line separating 1981-1998 data and 1999-2004 data due to changes in how deaths were classified and coded beginning in 1999. Readers should interpret the 1981-2004 external death data series as two series, one from 1981-1998 and the other from 1999 to present. In many cases, trends remained the same when the codes were modified. But, in the event that change occurs from 1998-1999, it could be attributed to changes in the coding of deaths as opposed to any real change.



## Indiana blacks less likely than whites to die in motor vehicle accidents

During the 1981-2004 period of study, motor vehicle accident death rates, the most common form of accidental death in Indiana, were sometimes almost two times higher for whites than for blacks (Figure 2). For example, in 1986, the motor vehicle death rate for whites in Indiana was 19.5 per 100,000 whereas the rate for blacks was 10. The two rates began to converge during the late 1980s and the early 1990s and the black motor vehicle death rate actually surpassed the white rate in 1994 (16.5 vs. 17.4). Motor vehicle death rates for Indiana whites mostly declined from 1994-2003 and were 16.1 by 2004. For Indiana blacks, the motor vehicle death rate fluctuated and declined from 1994-2003, but did experience the same slight uptick as seen in white motor vehicle deaths in 2004 at 12.4. National trends in motor vehicle death rates have always been much more similar for blacks and whites than rates in Indiana, and by 2004, the U.S. rates for blacks and whites were 14.5 and 15, respectively.

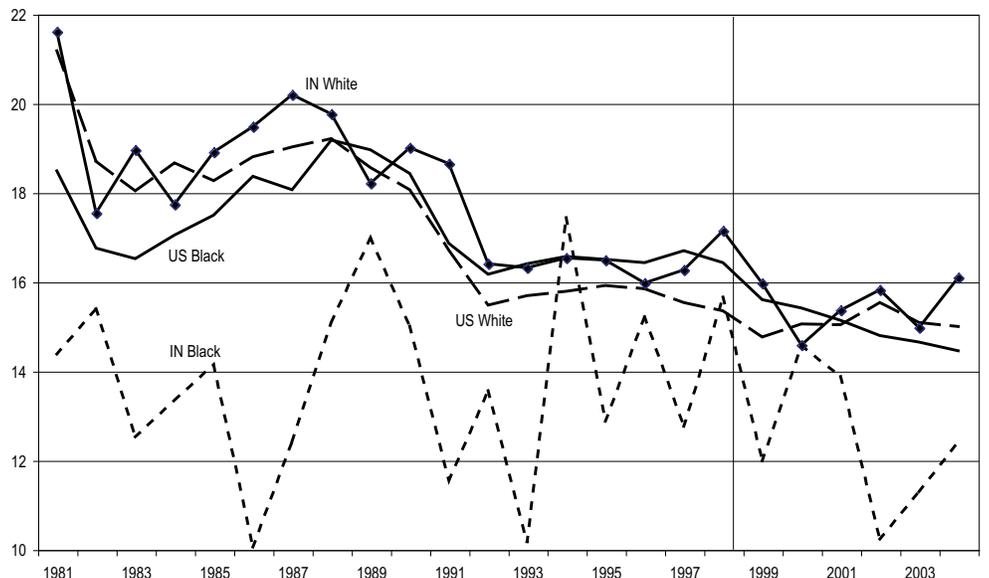
An inspection of race, age, and gender interaction data sheds light on which specific demographic categories have the highest risk of motor vehicle accidental deaths. Table 2 shows that much of the gender differential in overall risk of accidents is due to significantly lower risks of motor vehicle deaths for women, both black and white. While the rates for black and white men are similar (for both Indiana and the United States), by 2004, the likelihood that an Indiana black male dies in a motor vehicle crash is four times greater than for Indiana's black females—the same comparison at the national level finds black male rates only 2.5 times greater because black female rates are much higher at the national level than in Indiana.

**Table 2.** Motor vehicle traffic accident death rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	20.9	22.2	4.9*	7.9
White	22.7	20.9	9.9	9.3

\*Indicates an unreliable rate based on fewer than 20 deaths

**Figure 2.** Motor vehicle traffic accident death rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004





Notably, the black female accidental motor vehicle death rates in Indiana for any given year are problematic because many are based on fewer than 20 deaths resulting in unreliable rates.<sup>6</sup> This unreliability prevents further disaggregation of rates by age groups. However, an inspection of national black female accidental motor vehicle deaths finds that these rates have been fairly stable (and reliable) and ranged from 7.5 in 1982 to 9.8 in 1997 and were at 7.9 in 2004. By 2004, accidental motor vehicle deaths occur most often for black females ages 15-24 and 65 and over. White female motor vehicle accidental death rates in Indiana have declined to 9.9 in 2004, compared to the 1981 rate of 11.4. Like the national motor vehicle death rates of black females, the rates are highest for Indiana (and the United States) white females ages 15-24 and 65 and over—the youngest and the oldest drivers.

As of 2004, black and white male accidental motor vehicle death rates are similar both in Indiana and the United States. Like those of females, white male motor vehicle accidental deaths are most likely to occur for those ages 15-24 and 65 and over, both in Indiana and the United States.

Black male motor vehicle accidental death rates in Indiana are unreliable, but

an assessment of black male rates at the national level finds that the risk is fairly similar across the different age categories (with the exception of ages 0-14 which is much lower than the other age category death rates). And, in any given year, we do not see significantly higher rates for the youngest (15-24) and oldest (65+) black male drivers in the United States, as we did for white Indiana males.

Although the rates for the black male age categories are potentially unreliable due to actual numbers of events less than 20, they are presented as similar (reliable) trends are found at the national level over the last few years.

Table 3 presents the Indiana and U.S. demographic groups with the highest rates of accidental motor vehicle deaths. The top three groups in Indiana (white males 15-24 and 65 and over, and black males 25-34) are all also in the top five groups in the United States. The other two groups in the top five in Indiana in 2004 are black males 35-44 (and this may be a result of unreliability in the rate) and white males 25-34. Absent from the 2004 Indiana ranking and present in the top five U.S. rankings are elderly black males (65+) and black males ages 45-54. In sum, three out of five top categories in Indiana are white males and three out of the top five U.S. categories are black males.

**Table 3.** Groups with the highest motor vehicle traffic accident death rates (crude) per 100,000, Indiana and United States, 2004

Rank	Indiana		United States	
	Group	Rate	Group	Rate
1	White males, 15-24	41.4	White males, 15-24	38.4
2	White males, 65+	31.8	Black males, 25-34	31.4
3	Black males, 25-34	30.5*	Black males, 65+	27.8
4	Black males, 35-44	27.1*	Black males, 45-54	27.6
5	White males, 25-34	26.3	White males, 65+	27.3

\*Indicates an unreliable rate based on fewer than 20 deaths

<sup>6</sup>Rates calculated based on fewer than 20 events generate unreliable rates and throughout the report are noted with an asterisk (\*). For unreliable rates, we will also describe the trend in actual number of events and the trend for rates at the national level.



## Overdoses increase for Indiana and U.S. blacks and whites

One of the accidental death categories that experienced dramatic increase over the data period is accidental overdoses and poisonings (Figure 3). Although this accidental death category can be very diverse and includes exposure to toxic chemicals such as carbon monoxide and cleaning fluids, a close inspection of the exact nature of these deaths shows that they are by far a result of drug overdoses involving narcotics or pain medications. In Indiana, the accidental overdose rate for blacks was typically above the rate for whites until 2002 when accidental overdose death rates for blacks fell below those for whites. This reversal of race trends is significant and has changed the profile of a typical accidental overdose death in Indiana. The Indiana black accidental overdose rate in 1993 was almost four and one-half times that of the white rate (5.3 vs. 1.2), but in 2004, the black rate of accidental poisoning deaths was 4.4 compared to 5.8 for whites.

By 2004, the accidental poisoning death rate for *whites* had increased three

and one-half times that of the 1981 rate and the black rate had increased one and one-half times the 1981 rate. Both groups saw dramatic increases in their rates from 2002-2004, matching a similar national trend and also mirroring a similar national race reversal of black rates falling below white rates.

Table 4 presents the accidental overdose/poisoning rates for the black and white gender categories in Indiana and the United States for 2004.

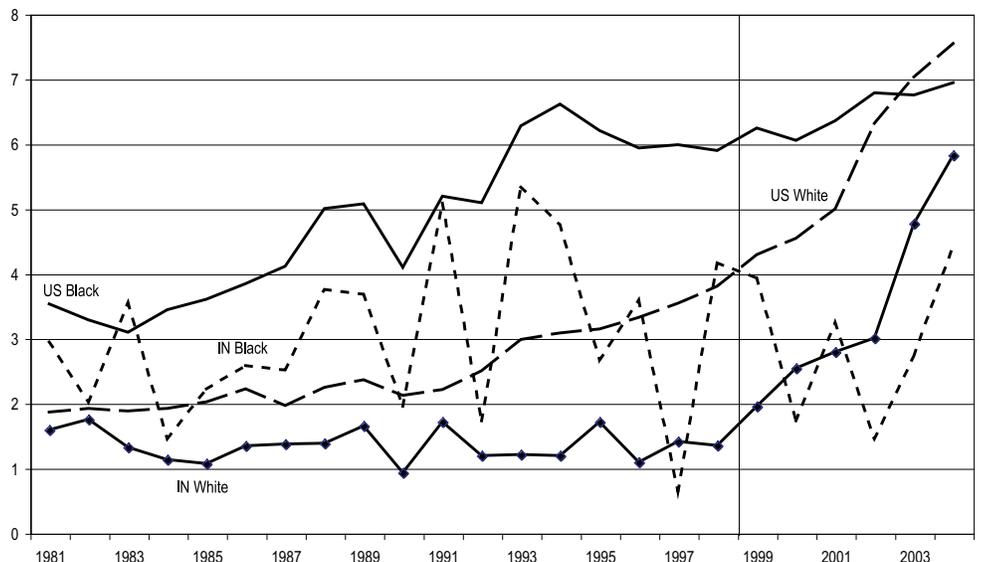
The 2003 and 2004 accidental poisoning/overdose rates for Indiana's white males and females are much higher than rates for previous years. For white males in Indiana, these accidental overdose rates in some years have been as

**Table 4.** Accidental overdose/poisoning death rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	6.2*	9.9	2.8*	4.5
White	7.9	10.1	3.8	5

\*Indicates an unreliable rate based on fewer than 20 deaths

**Figure 3.** Accidental poisoning death rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004





low as 1.3 (1985). The rates started increasing about 1999 and have been increasing dramatically since. There are very clear age trends for white male accidental overdose deaths in Indiana—these deaths are concentrated in white males ages 35-44 (15.2), followed by the age categories of 45-54 (14.2) and 25-34 (12.5)—and this trend has held over the last seven to eight years for white males in Indiana and is apparent in national trends as well. Again, these overdose deaths are primarily due to narcotics overdoses, but the exact nature (e.g., an overdose of a prescribed medication versus an overdose of an illegal substance) is not known from death certificate data. A closer look at the details of this death category finds that of the drugs included, most would be illegal substances and not prescription medication overdoses. The category included overdose by cannabis, cocaine, morphine, heroin, LSD, mescaline, methadone, morphine, and opium. Clearly, most are illegal substances. Some could be prescribed medications that were accidental overdoses and others could be the result of taking *someone else's* prescribed medications.

Further investigation into the exact nature and source of accidental overdose deaths in Indiana is warranted. Other states have seen similar trends. Texas, for example, has cracked down on pharmaceutical scams and pain management clinics for easy and illegal access to narcotics and anti-anxiety medications.<sup>7</sup> As noted in Texas, the most commonly prescribed opiate in the United States is some form of hydrocodone (e.g., Vicodin or Lorcet). Clearly, prescription drug abuse and overdose is becoming an important and significant public safety and criminal justice concern. And it is a concern that includes deaths in all social, cultural,

occupational, race, age, gender, and economic groups.<sup>8</sup>

The accidental overdose/poisoning deaths for females have also increased dramatically but are still well below the male rate both in Indiana and the United States. For white females in Indiana, the trend is similar—these deaths occur for those ages 35-44, 45-54, and to a lesser extent, 24-34. Black females actual counts in Indiana find accidental poisoning/overdose deaths to be very infrequent (a total of 7 in 2004, 1 in 2003, 2 in 2002), but when they do occur, they occur almost entirely in the age categories 35-44 and 45-54.

Although the age categories for black males in Indiana cannot be disaggregated to analyze rates, the black age categories are the same as the age categories with the greatest number of deaths for whites, those ages 25-54. Also, a look at the black male overdose rate for the nation as a whole finds very inflated rates (27.1 in 2004) for black males ages 45-54 and rates of approximately 16 for the two groups of 35-44 and 55-64 (although the rates for the 55-64 groups are not typically that high in other years). Accidental overdoses affect middle-aged groups across both races and genders. Since 1981, U.S. accidental overdose/poisoning rates for black males and black females have more than doubled, and for white females and white males, the rate has *quadrupled*.

## **Accidental fall death rates for Indiana whites at all-time high**

The accidental fall death rate for whites in Indiana is near an all-time high (Figure 4). The white rate was 3.3 in 1981, declined to 2.6 by 1993, and has increased fairly steadily since, to 4.4 by 2004 (but still below the national white rate of 6.5). The

<sup>7</sup>Carroll, Susan. Southeast Texas called a 'mecca' for pill abusers. *The Houston Chronicle*. October 22, 2007. Retrieved October 22, 2007, [www.chron.com/disp/story.mpl/front/5233402.html](http://www.chron.com/disp/story.mpl/front/5233402.html)

<sup>8</sup>Carroll, 2007.



accidental fall death rates for Indiana blacks have *declined* over the time period of study and exhibited more erratic fluctuations year to year than white rates and rates for both races at the national level. The Indiana black rates have been markedly lower than Indiana white rates and both race groups at the national level since 2000, and by 2004 are less than half of the Indiana white rate and significantly below the national black rate of 3.6. As shown in Table 5, these race differences are also evident when considering gender and race together.

Deaths from falls primarily happen to the elderly. For both black males and females in Indiana, these deaths occur primarily for those ages 65 and over, but are rare events, with a total of 4 black males and 4 black females dying from fall deaths in 2004. Unsurprisingly, national rates for black males and females are also the highest for those in the 65 and over age category with a rate of 23.8 for black males and 13.7 for black females; both of these groups have seen gradual increases in fall death rates, but relatively low increases compared to those for whites.

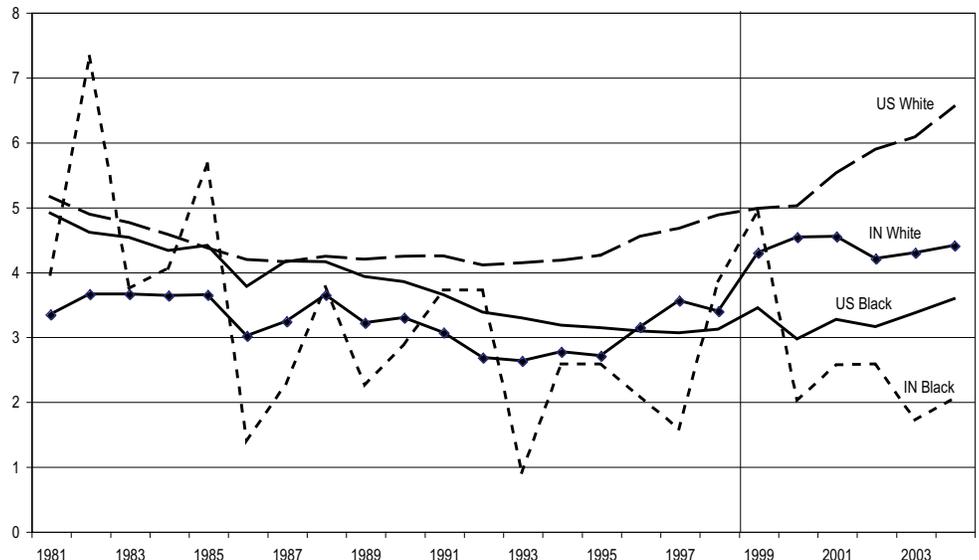
The likelihood of fatal fall deaths is more common for white males and females, particularly white males. Although research shows that elderly females are actually more likely to fall than elderly males, when males do fall they are more likely to die from their fall than are elderly females.<sup>9</sup> The 2004 white male fall death rate for those 65 and over in Indiana is 38.9—more than twice the rate of 1981. The rate for white females age 65 and over is 22.6—one and one-half times the 1981 rate of 14. Although alarmingly high, these rates are lower than national 2004 rates for the same age groups—48.2 for white males 65 and over and 41.2 for white females 65 and over.

**Table 5.** Accidental fall death rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	2.4*	5.5	1.7*	2.3
White	6.9	8.6	2.9	5.1

\*Indicates an unreliable rate based on fewer than 20 deaths

**Figure 4.** Accidental fall death rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004



<sup>9</sup>National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention, Centers for Disease Control and Prevention. (2007). *Falls among older adults: An overview*. Accessed June 22, 2007, at [www.cdc.gov/nncipc/factsheets/adultfalls.htm](http://www.cdc.gov/nncipc/factsheets/adultfalls.htm)



## Accidental fire/burn deaths

Fire deaths have declined as a cause of accidental death since 1981 and are typically ranked fourth among types of accidental deaths, behind motor vehicle accidents, overdoses, and falls. In 2004, 15 blacks died from accidental fires (8 black males and 7 black females) and 84 whites died from accidental fires (54 white males and 30 white females). Comparatively, the number of drowning deaths for blacks in 2004 was 10 (all black males) and there were 60 white drowning deaths in 2004 (48 white males and 12 white females).

The accidental fire death rate for Indiana blacks in 1984 was 10.7—a rate unequaled by any other racial group's rate in Indiana or nationally (Figure 5). Fortunately, these rates have declined significantly. However, a closer inspection of accidental deaths due to fire finds that the rate is still quite high for Indiana blacks, and by 2004, fire deaths are actually more likely for Indiana blacks than are deaths due to falls (3.6 for fire deaths and 2.0 for falls—although both of these rates are potentially unreliable due to frequencies less than 20 in 2004).

Death as a result of an accidental fire is more common for both Indiana blacks and whites than their national counterparts. As of 2004, the fire death rate for Indiana blacks is more than twice as high as the rate for whites.

As illustrated by Table 6, race is a greater predictor of fire death risk than is gender. Fire deaths are higher for black males and females than they are for white males and females. In Indiana, the black male and female rates are unreliable due to relatively small base numbers but the numbers of these deaths have declined since 1981.

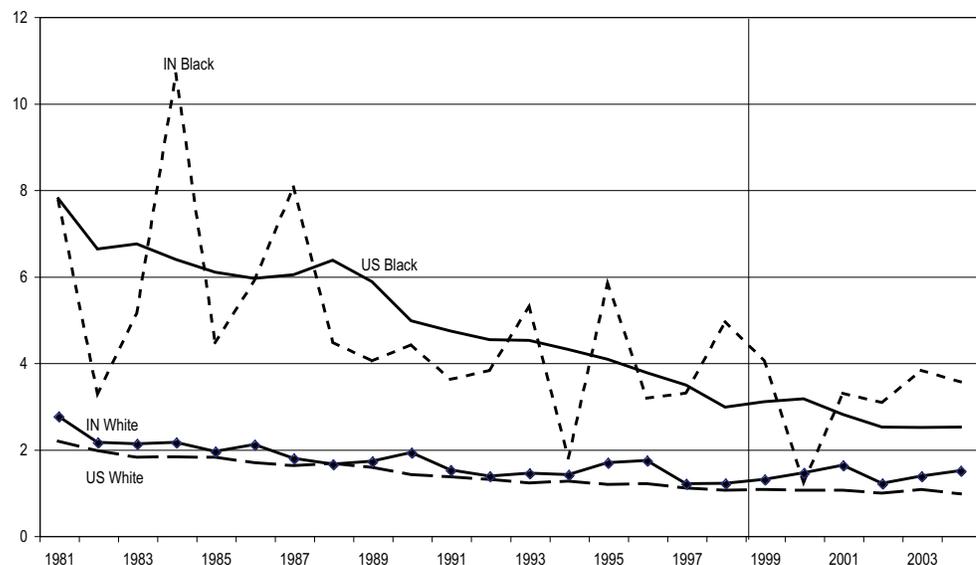
A look at national trends for black fire/burn deaths finds significant declines

**Table 6.** Accidental fire/burn death rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	4.4*	3.4	2.9*	1.8
White	2.0	1.2	1.1	0.7

\*Indicates an unreliable rate based on fewer than 20 deaths

**Figure 5.** Fire/burn accident death rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004





in the rates. For black males, the national fire death rate has declined dramatically from 10.8 in 1981 to 3.4 by 2004, and the national black female fire death rate has declined from 5.4 in 1981 to 1.8 by 2004. White fire death rates have declined nationally as well, but much less dramatically because they were much lower than black rates in 1981 when the time series began.

An assessment of the age groups at highest risk finds that for all groups—black males, white males, black females, white females—the age group most likely to die from fire/burn deaths are the elderly 65 and over (based on 2004 data). The death rates for this age group are typically at least two times that of any other age group.<sup>10</sup>

### Number of drownings increased in Indiana in 2004

Drownings are yet another type of accident showing decline over the past 20 years, although there was a significant increase in the number and rate of drownings in Indiana in 2004 as compared to 2003 (72

drownings versus 51 in 2003) (Figure 6). This is still a significant improvement over the numbers and rates of drowning seen in Indiana in the 1980s and 1990s in which both decades, at some point, saw drowning numbers at 100 or more and rates as high as 2.0, as compared to the current rate of 1.2. Historically, drownings were less likely to occur in Indiana than they were in the United States as a whole, but over time the two rates converged and as of 2004 are nearly identical (1.2 for Indiana, 1.1 nationally). This convergence can be explained by fairly significant, stable declines for U.S. drownings and a recent increase in Indiana.

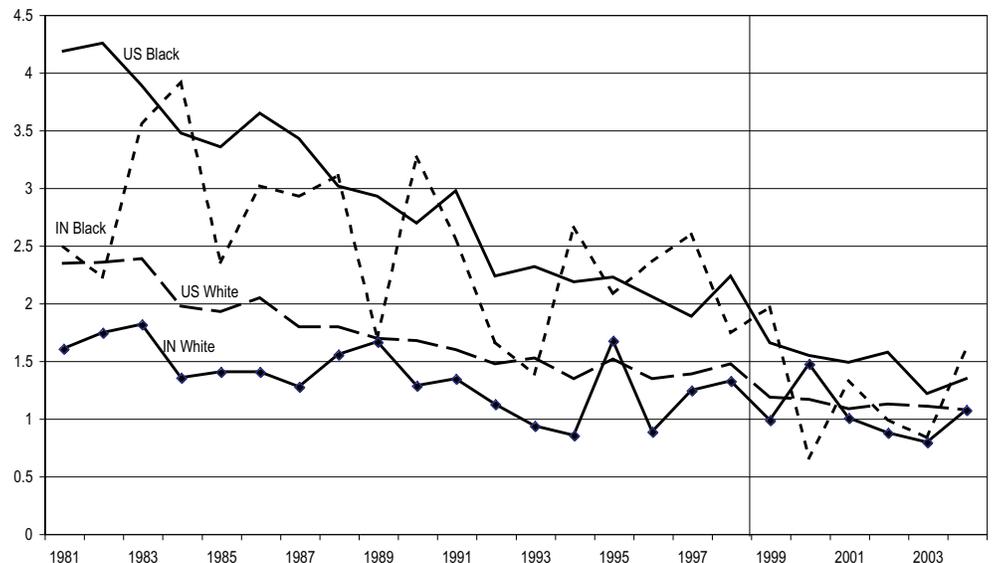
Nationally, black drowning rates have always been higher than for whites, but

**Table 7.** Accidental drowning death rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	3.3*	2.2	0	0.5
White	1.8	1.7	0.4*	0.5

\*Indicates an unreliable rate based on fewer than 20 deaths

**Figure 6.** Accidental drowning death rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004



<sup>10</sup>These trends reflect national patterns as those trends for specific Indiana age groups, for blacks and whites, are unreliable due to small base numbers.



over the years there has been a convergence in the drowning rates for blacks and whites. In 1981, nationally, blacks were nearly twice as likely to drown as whites. By 2004, U.S. blacks have a drowning rate of 1.3 and whites 1.1

As noted in Table 7, there were no black female drownings in Indiana in 2004. There were 12 white female drownings in Indiana in 2004, but since the number is less than 20 (and has been for all but three years in the data series), the rates for female drowning in Indiana, black or white, are unreliable for analysis. Drownings of both black and white females are also rare at the national level and rates have always been at 1.1 or lower.

Unreliable rates due to small base numbers are also the case for black male drownings in Indiana—there were 10 such deaths in 2004. The highest number of black male drownings in Indiana in any

year of our series was 13 in 1983 and 1984. Forty-eight white males drowned in Indiana in 2004 at a rate of 1.8, slightly below the 1981-2004 average of 2.1. The highest rate was 3.1 in 1985, and the lowest rate was 1.2 in 2003—thus, the trend has been downward since 1981. Since 2000, white male drownings in Indiana occurred most frequently for those ages 15-24 (n=56) and 0-14 (n=45), with the next closest age group being 45-54 (n=32). There were more drownings for white males 65 and over in 2004 (n=8) than there has been since 1989 (n=10). Some of these accidental drownings may in fact be suicides.

Black male drownings at the national level are by far concentrated in the 15-24 age category, usually followed by the age category 0-14. In comparison, half (5 of 10) of the black male drownings occurring in Indiana in 2004 were in the 15-24 age category.

## Gender more predictive of suicide risk than race

The overall suicide rate in Indiana for 2004 was 11.3 and the U.S. rate was 10.9. A disaggregation by race finds significant differences. Indiana blacks have a lower suicide rate (6.9) than Indiana whites (11.7), and the Indiana white rates are similar to the overall national rate of 10.9 (and the overall Indiana rate of 11.3).

As illustrated by Table 8, the Indiana (and national) group most at-risk for suicide deaths is white males. The 2004 Indiana white male suicide rate was 19.4, and this rate is similar throughout the time series (rates ranging from 18.8 to 23.7). The gender ratio for white male suicides and white female suicides considering suicide totals from 1981-2004 is 4.4:1—for every four-plus white male suicides there was one white female suicide.

### Indiana white male suicides

An examination of age categories within the white male demographic group finds pronounced differences in risk.

Fortunately, there are too few suicides among white males ages 0-14 to allow for the calculation of reliable rates. But other Indiana white male age categories have suicide rates far above the state rate of 11.3. As of 2004, the suicide rate for Indiana white males ages 35-44 was nearly three times the state average at 30.4, the rate for ages 65 and over was nearly as high at 29.1, and three other age groups had suicide rates above 20—ages 55-64 at 25.1, 25-34 at 23.9, and 45-54 at 22.2 (see Figure 8). The rate for the 15-24 age group (15.4) was less than these groups, though still above the overall rate of 11.3.

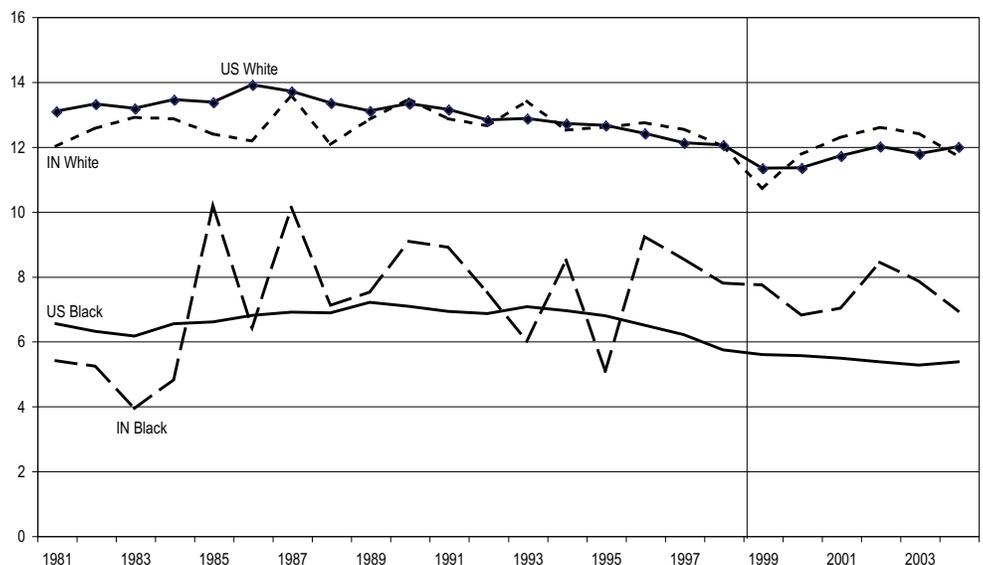
Although the overall white male suicide rate in Indiana has remained relatively stable over the time series, the

**Table 8.** Suicide rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	12.5	9.6	2.1*	1.8
White	19.4	19.5	4.7	5.0

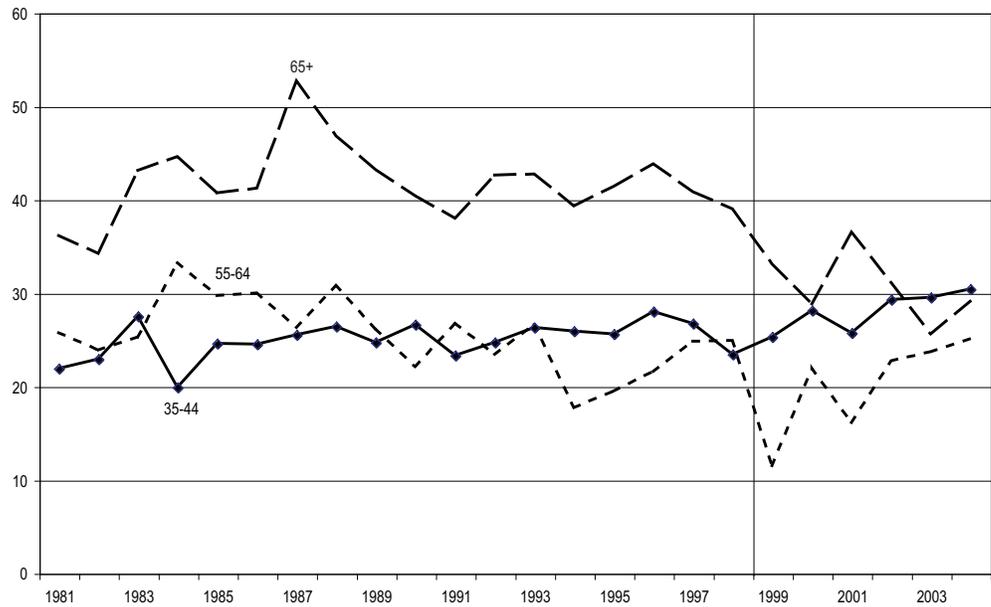
\*Indicates an unreliable rate based on fewer than 20 deaths

**Figure 7.** Suicide rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004





**Figure 8.** White male age groups with the highest 2004 suicide rates (crude) per 100,000, Indiana



same cannot be said for the trends within specific age groups. The suicide rate for the white male age group 15-24 is declining from the high of 27.5 in 1995, and by 2003 and 2004 had reached the lowest rates since the early 1980s. For white males ages 25-34, rates peaked in 1990 at 35, and have recently returned to rates seen during the early 1980s, albeit still at a level double that of the state rate. By 2004, the suicide rate for white males ages 35-44 was the highest for any of the white male age categories and had reached an all-time high of 30.4—this rate has slowly increased since 1981 when the rate was 22. Suicides for white males ages 45-54 increased significantly by 2003 when the rate was 32.1, and although the rate declined to 22.2 the next year, it was still higher than the lowest rate of 15.6 in 1988. The suicide rate for Indiana's white males ages 55-64 varies a lot over the time series and shows only a slight pattern of decrease since 1981. The 2004 suicide rate for this group was 25.1 compared to 25.7 in 1981—the high was 33.2 in 1984 and the low 11.5 in 1999. For elderly white males (65 and over), the

2004 rate of 29.1 is very near the highest rates seen for those ages 35-44. Although the suicide rate for the white male age group 65 and over was the second highest rate among the various age groups in 2004, the suicide rates for this group in many years have exceeded the highest rates ever seen for any age group (black or white, male or female). The 1987 elderly white male suicide rate was an alarming 52.7 and exceeded a rate of 40 during 12 other years in the series.

### Indiana black male suicides

The white male suicide rate in Indiana as of 2004 was 19.4 and the black male suicide rate was 12.5. There are so few suicides in any specific black male age category that analysis of year-to-year rate changes for any specific age group would be unreliable. For many years during the time series, a specific age category of black male suicide shows zero suicides for that category. Even most recently in 2004, there was only one suicide for black males ages 0-14, two for those 45-54, and one in the over-65 age category.



Although there are relatively few Indiana black male suicides in specific age categories, *the overall Indiana black male suicide rate of 12.5 is much higher than the U.S. black male suicide rate of 9.6.* As shown in Table 9, in 1981, Indiana's black male suicide rate and the U.S. black male suicide rate were similar. By 1991, the Indiana rate surpassed the U.S. rate and then has remained above the U.S. rate since 2001.<sup>11</sup>

An inspection of the raw numbers of black male suicides by age category from 1981-2004 finds that the most suicides occurred in the 25-34 age category followed by the 15-24 age category—and the numbers in these two age categories dramatically exceed those of the other age categories. Thus, unlike the trend for white males, *we do not see an inflated number of elderly black male suicides*—black male suicide appears to occur at younger ages than white male suicides. The highest number of black male suicides ever occurring for any individual age category occurred in 2003 when 17 black males in the 25-34 age category committed suicide. Black males in Indiana have the second highest suicide rate after that of white males.

Although lacking in standardization, the numbers of black male homicides in specific age categories show some alarming trends. As stated above, the 17 suicides committed by the 25-34 age group in 2003, is the largest number of black male suicides for any age category since 1981. This figure is contrasted to several years when the entire number of black male suicides in all age categories was near or less than 17. Suicide prevention and intervention strategies for black males should focus resources on the most at-risk age categories and as will be shown below, these categories are also the most high-risk age categories for black male homicides.

**Table 9.** Black male suicide rates (age-adjusted) per 100,000 by race and gender, Indiana and United States

Year	Indiana	U.S.
1981	10.5	11.4
1991	16.2	12.9
2001	12.5	9.8
2002	15.4	9.8
2003	13.4	9.2
2004	12.5	9.6

## Indiana white female suicides

Since 2001, approximately 130 white females in Indiana commit suicide each year. The Indiana white female suicide rate is much lower than the rate for white males or black males, and in 2004, the white female suicide rate was 4.7. White female suicides in Indiana are uncommon enough that we cannot analyze trends in some specific age categories for some years, but an assessment of rates for 2004 finds Indiana's white females in the age category 35-44 have the highest rate at 8.9, and those ages 25-34 and 45-64 have rates at or near 6.0. The rates for the age categories 15-24 and 65 and over are based on fewer than 20 suicides in each group in 2004. Although the rates for some white female age groups are unreliable for 2004, they are reliable in previous years, and when analyzed across the time series, they appear to be declining for both of the age groups 15-24 and 65 and over. Overall in Indiana, the white female suicide rate was at a high rate of 5.8 in 1982 and a low of 3.5 in 1999.

## Indiana black female suicides

Each year in Indiana, there are very few black female suicides, and in several years in the study, there were only one or two black female suicides in the entire state. In 2004, there were 6 such suicides, up two from the 8 in 2003, even with the 2002

<sup>11</sup>An inspection of the race, age, and gender interaction tables for suicide shows that Indiana black male suicide rates first exceeded U.S. black male suicide rates in 1985.



number, and seven below the highest number recorded in 1996 when there were 13 black female suicides in Indiana. There are too few black female suicides to generate reliable rates by age category. Looking at the entire time series of 1981-2004, we find a total of 142 black female suicides in Indiana. When suicides do occur among black females, they are most often in the 25-34 age group followed by the age group 35-44. A comparison of Indiana's black male suicides to Indiana black female suicides indicates that for every black female suicide, there are 4.7 black male suicides.

### **Suicide methods**

In Indiana, over the entire course of the data series, 1981-2004, 40 percent of white female suicides, 47 percent of black female suicides, 65 percent of white male suicides, and 71 percent of black male suicides were committed with a firearm. The trend for each group is away from firearm suicides toward other methods. By 2004, 33 percent of white female suicides,

17 percent of black female suicides, 61 percent of white male suicides, and 64 percent of black male suicides were committed with a firearm. Although firearms are still the most common method for male suicides in Indiana, the most common methods of suicide for white females as of 2004 were overdose/poisoning (42 percent), followed by firearms (33 percent), and hanging/suffocation (21 percent). Black female suicides, as noted previously, a rarity in Indiana, are most commonly overdoses (50 percent in 2004).

In 2004, similar proportions of black and white males used firearms (64 percent and 61 percent), but the second most common method for black males was hanging (33 percent) and there were virtually no overdose suicides among black males (n=1). For Indiana white males, hanging is the second most common method at 23 percent followed by overdoses at 13 percent.



As reported in the previous report, the Indiana age-adjusted homicide rate as of 2004 was approximately 5.3 and the U.S. rate was slightly higher at 5.9 (Figure 9).<sup>12</sup> A disaggregation by race for Indiana finds the homicide rate for blacks as of 2004 an alarming 30 per 100,000. The homicide rate for Indiana whites was 2.9, lower than the overall 2004 national homicide rate of 3.6. The Indiana black homicide rate has been much higher, at 47.7 (1994), but has also been as low as 20.5 (1989, but this was an anomaly as there are no other years in the data series lower than 26). But the lowest Indiana black homicide rates since 1981 are still seven times higher than the low for Indiana whites and almost five times higher than the highest rates recorded for Indiana whites.

Table 10 illustrates the even more dramatic race differences that exist when we further disaggregate by gender. And, we can see that race is a more powerful predictor of homicide risk than is gender, both nationally and in Indiana. Indiana black males have a homicide rate *fourteen times* that of Indiana white males and, as shown in Table 10, *the Indiana black male*

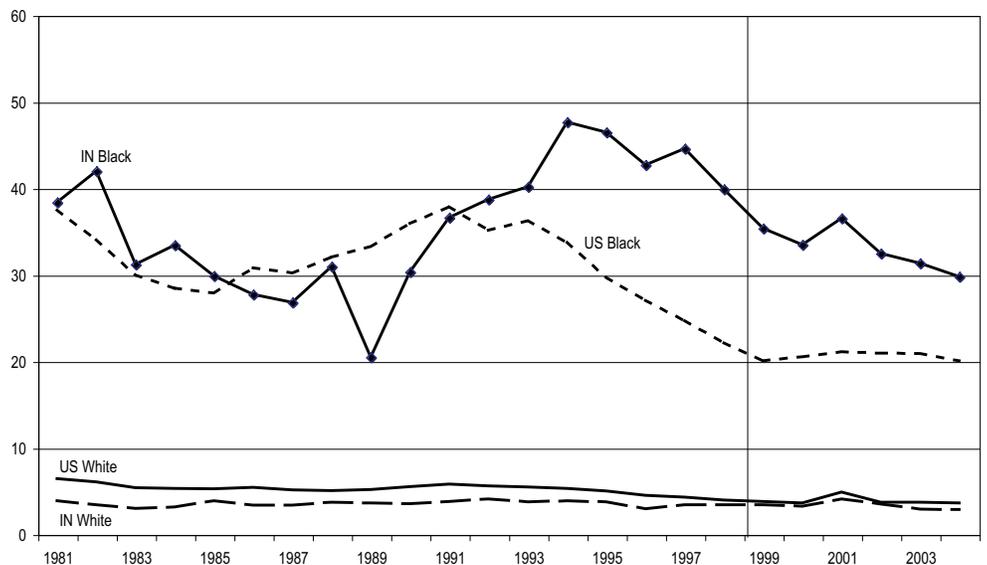
2004 homicide rate is more than 51 percent higher than the national black homicide rate. Indiana's black male homicide rate has been substantially higher than the U.S. rate since 1994 with rates 15 points or greater than the U.S. rate in each year. The homicide rate for Indiana black males in 2004 was the *third highest* in the nation, with only Pennsylvania and Louisiana experiencing higher rates.<sup>13</sup>

The race effects on homicide risk in Indiana are even more exaggerated if we look at the homicide rates of specific black male age groups. Table 11 shows the 2004 homicide rates for all black and white male age groups in Indiana and the United States. The Indiana rates for all black age groups are substantially higher than Indiana white rates and U.S. black and white rates (though some rates are unreliable).

**Table 10.** Homicide rates (age-adjusted) per 100,000 by race and gender, Indiana and United States, 2004

Race	Male		Female	
	Indiana	U.S.	Indiana	U.S.
Black	53	35.1	8.4	6.3
White	3.8	5.3	1.9	2.0

**Figure 9.** Homicide rates (age-adjusted) per 100,000 by race, Indiana and United States, 1981-2004



<sup>12</sup>Quinet and Newby, 2007.  
<sup>13</sup>Black homicide victimization in the United States: An analysis of 2004 homicide data. Violence Policy Center: Washington D.C. Published January 2007. www.vpc.org



**Table 11.** Male homicide rates (crude) per 100,000 by race and age group, Indiana and United States, 2004

	0-14		15-24		25-34		35-44		45-54		55-64		65+	
Race	IN	U.S.	IN	U.S.	IN	U.S.	IN	U.S.	IN	U.S.	IN	U.S.	IN	U.S.
Black	4.9*	4.2	115.4	77.3	124.4	80.9	54.1	37.3	44.1*	25	27.7*	14.7	16.8*	10.7
White	2.7*	1.3	6.2	10.2	4.6*	9.2	3.9*	6.2	4.5*	4.8	2.5*	3.3	2.4*	2.5

\*Indicates an unreliable rate based on fewer than 20 deaths

As noted in Table 11, the black male age group with the highest homicide risk is the 25-34 year-old group. A review of white male homicide risk by age group finds that white males most at-risk for homicide were similar—highest rates were for ages 15-24 at 6.2, and ages 25-34 at 4.6—though still far below any of the rates for black male age groups (with the exception of the black male age group of 0-14).

The Indiana black female homicide rate is more than 30 percent above the national average, and black females in Indiana have had a higher homicide rate than U.S. black females since 1994. If we look specifically at Indiana, we cannot disaggregate black and white female homicides by age groups due to unreliable rates. However, there appears to be some consistency between the age groups in Indiana with the highest number (and highest rates though unreliable) of homicides and the U.S. age groups with the highest homicide rates. For example, nationally in 2004, the 15-24, 25-34, and 35-44 age groups for both black and white females experienced the highest homicide rates. In Indiana in 2004, these same age groups experienced the highest number of homicides for black females, and two of three of these groups (25-34 and 35-44) were among age groups with the highest number of homicides for white females (the 45-54 age group for white females experienced the second greatest number of homicides with 11, and the 0-14 age group had the same number of homicides as the 25-34 age group).

The Indiana versus national trends are reversed for whites, as Indiana's whites, both male and female, have lower homicide risks than U.S. whites. This has always been the case for white males, and with the exception of seven years from 1981-2004 when Indiana's white females were at higher risk than U.S. white females, white females in Indiana usually have lower or very similar homicide risks as their U.S. counterparts.

## Homicide methods

Homicides are primarily committed by means of firearms, sharp objects, hanging/strangulation, or blunt object, with the method being largely dependent on the gender of the victim. Guns are much more likely to be the method of homicide victimization for black males than any other group. In 2004, guns accounted for 82 percent of black male homicides, 60 percent of white male homicides, 50 percent of black female homicides and 49 percent of white female homicides. Clearly, the extraordinarily high homicide rates for black males in Indiana are at least in part linked to the availability of and willingness to use firearms. In 2004, sharp object (i.e., knives), strangulation, and blunt object homicide victimizations accounted for larger shares of homicides for female groups—29 percent of black female and 26 percent of white female homicides compared to 9 percent of black male and 18 percent of white male homicides.



# OVERALL RISKS

Table 12 presents the 2004 rate of death for Indiana and U.S. blacks and whites for each of the major categories of external causes of death. The rates in parentheses are the high and low range from 1981-2004. The rank order of likelihood varies for each of the groups as does the time series' highs and lows. For all demographic groups, the overall accident (combining all forms of accidents) category is the most likely cause of death. For Indiana and U.S. blacks, the next most likely cause of death is homicide. For Indiana and U.S. whites, motor vehicle accidents are the second most likely cause of death. Motor vehicle deaths are the third most likely cause of external death for Indiana and U.S. blacks whereas the third most likely cause of external deaths for Indiana and U.S. whites is suicide.

As this report has documented, efforts and resources to prevent external deaths in Indiana need to be targeted by race, gender, and age group risk. The youngest (15-24) and oldest (65 and over) black and white males and females should be the focus of resources to prevent motor vehicle traffic deaths, and attention should also be given to black males ages 25-44. Accidental overdoses/poisonings should target

middle-age black and white males and females (35-54) and black males 25-34, while prevention of accidental fall and fire/burn deaths should target the elderly. Efforts to prevent accidental drownings, though infrequent, should primarily target young (0-14) and elderly (65 and over) black and white males with attention given to white males 15-34 and black males 15-24.

Suicide prevention efforts should focus on white males ages 35-44 and 65 and over (with attention given to white males 25-34 and 45-64) and black males 15-44. The prevention of suicide for females should focus on white females 35-54 and black females 25-44. Further, these efforts should emphasize the prevention of suicides committed with a firearm for males and suicides committed by means of overdose/poisoning for females.

Finally, resources for reducing homicides for males should target black and white males 15-34 and black and white females, ages 15-44. The majority of male and female homicide victims are killed with a firearm, though female victims are often killed by means of a sharp object, strangulation, or blunt object. These circumstances should be

**Table 12.** 2004 rate (age-adjusted) per 100,000 and 1981-2004 rate range for external causes of death by race, Indiana and United States

Cause of death	IN Black	IN White	U.S. Black	U.S. White
Overall Accidents	37.7 (31.8-45.3)	40.0 (33.5-44.1)	37.9 (37.6-52.9)	39.6 (33.6-44)
Motor Vehicle Traffic Accidents	12.4 (10-17.4)	16.1 (14.6-21.6)	14.5 (14.5-19.2)	15.0 (14.8-21.2)
Accidental Overdose/Poisoning	4.4 (0.6-5.3)	5.8 (0.9-5.8)	6.9 (3.1-6.9)	7.5 (1.9-7.5)
Accidental Fall	2.0 (0.9-7.3)*	4.4 (2.6-4.5)	3.6 (3-4.9)	6.5 (4.1-6.5)
Accidental Fire/Burn	3.6* (1.8*-10.7)	1.5 (1.2-2.8)	2.5 (2.5-7.8)	1.0 (1-2.2)
Accidental Drowning	1.6 (1.4-3.9)*	1.0 (0.9-1.8)	1.3 (1.2-4.2)	1.1 (1.1-2.4)
Homicide	30.0 (20-47)	2.9 (2.8-4.1)	20.0 (20-38)	3.6 (3.6-6.4)
Suicide	6.9 (3.9-10.2)	11.7 (10.7-13.5)	5.4 (5.2-7.1)	12.0 (11.3-13.8)

\*Indicates an unreliable rate based on fewer than 20 deaths



considered when making decisions regarding homicide prevention efforts.

The prevention of some external causes of death will certainly involve legislative issues. Laws requiring and/or regulating helmets and seatbelts, prescription drugs, restraining the elderly in nursing homes, smoke (and heat )

detectors, fire-safe cigarettes, and gates and fences for family swimming pools may help prevent accidental deaths, and laws limiting or banning access to guns for those with a violent history or significant mental illness may work to decrease both homicides and suicides.