

Philip R. Fine,<sup>1</sup> Ph.D., M.S.P.H.; Jeffrey M. Roseman,<sup>1</sup> M.D., Ph.D.;  
Constandinos M. Constandinou,<sup>1</sup> M.S.P.H., M.P.A.;  
Robert M. Brissie,<sup>2</sup> M.D.; Jay M. Glass,<sup>2</sup> M.P.A., M.S.; and  
John M. Wrigley,<sup>1</sup> Ph.D.

## Homicide Among Black Males in Jefferson County, Alabama 1978–1989

---

**REFERENCE:** Fine, P. R., Roseman, J. M., Constandinou, C. M., Brissie, R. M., Glass, J. M., and Wrigley, J. M., "Homicide Among Black Males in Jefferson County, Alabama 1978–1989," *Journal of Forensic Sciences*, JFSCA, Vol. 39, No. 3, May 1994, pp. 674–684.

**ABSTRACT:** This study examined 1505 of 1573 (96%) homicides occurring in Jefferson County, Alabama, between 1978 and 1989, that were investigated by the Coroner/Medical Examiners' Office. During this 12 year period, Jefferson County's average annual homicide rate was 18.9 per 100,000 compared to an 11.3 per 100,000 State of Alabama's rate and a 9.3 per 100,000 US rate.

In Jefferson County, the average annual homicide rate among blacks (41.4) was almost six times the rate among whites (7.1). The highest average annual race-specific homicide rate was in black males (75.9), followed by black females (12.4), white males (10.4) and white females (4.1). Black males in the 25–34 year age group had the highest rate (159.7), followed by black males in the 35–44 year age group (151.7) and then by black males in the 15–24 year age group (96.2). These rates ranged from almost eight to over eleven times the rates of similarly aged, black females or white males and were over 33 times higher than the rates for white females of the same age.

Our results emphasize the high rates of black male on black male violence, the acquaintance of the black male victim and perpetrator, and the importance of arguments as an inciting event.

Moreover, we determined that while the raw numbers and rates for black homicides were and are staggering, the average annual homicide rate for black males was actually declining at a greater rate than for all other race-sex groups. Further, our results suggest that a number of hypothesized determinants commonly believed to be associated with the increase in the homicide rate among black males between 15 and 24 years of age, such as drug use, increased availability of firearms and increased child abuse were not, in fact, major determinants of the change in homicide rates.

Homicide is one of the ten leading causes of death in the U.S. [1]. Because so many of its victims are young, homicide ranks even higher in terms of years of potential life

Received for publication 26 April 1993; revised manuscript received 7 Oct. and 9 Dec. 1993; accepted for publication 13 Dec. 1993.

<sup>1</sup>UAB Injury Control Research Center, Birmingham, AL.

<sup>2</sup>Chief Medical Examiner, and Chief Deputy Coroner, respectively, Jefferson Co. Coroner Medical Examiner's Office, Birmingham, AL.

This study was supported, in part, by Grant No. R49/CCR403641 from the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

lost [2]. Black males, particularly young adult black males, are at highest risk of becoming a homicide victim [2,4-11]. In fact, among black males between 15 and 34 years of age, homicide is the leading cause of death [2,7]. Thus, it is no coincidence that an important health objective for the U.S. for the Year 2000 is to reduce the homicide victimization of these black males [3]. Towards this end, this study focused on young, adult black males, comparing their homicide experience with other age-sex-race groups cross-sectionally and over time in the Birmingham, Alabama Standard Metropolitan Statistical Area (SMSA). The purpose of the study was to identify possible intervention strategies for this high risk population.

## Methods

Homicide was defined as "a death caused by an action resulting from the intent of another person." We examined all available records on each of the 1505 deaths satisfying the criteria that they (a) occurred in Jefferson County, Alabama among Jefferson County residents between January 1, 1978 and December 31, 1989; and (b) were investigated by the Jefferson County Coroner/Medical Examiners' Office (JCCMEO). Records from 68 (4%) additional deaths occurring in Jefferson County were excluded because these persons were not legal residents of Jefferson County.

Records reviewed and abstracted included JCCMEO reports, autopsy protocols, toxicology and serology data, firearm and ballistics data, trace evidence analysis data, and solid drug data. Copies of court records, associated newspaper articles and police reports were used to supplement incomplete or ambiguous data.

Victim-perpetrator relationships were divided into four categories: 1) relatives (including common-law relations); 2) acquaintances; 3) no relation; and, 4) unknown.

Homicides were divided, by the medical examiner, into one of seven primary cause-related categories: 1) general disputes (that is, those which were other than domestic disputes); 2) domestic disputes; 3) acts of passion (pertaining to intimate relationships; adultery); 4) rape-related; 5) drug or alcohol-related; 6) felony-related (death during the commission of a crime); and, 7) other (i.e., child abuse; death of an innocent bystander; and, cases where data were inadequate to allow further categorization).

Young adult black males were defined as being between 15 and 44 years of age. Rates were based on population estimates from 1980 and 1990 census data with interpolations and extrapolations based on an exponential growth curve [12]. Hispanics were included by the medical examiner as whites. No racial groups other than black and white were present among the cases. Population estimates for blacks included all non-whites; however, other non-white races made up less than 1% of the population. Thus, their inclusion was unlikely to influence interpretation of these data.

All rates were expressed as "per 100,000 persons at risk." General linear models were fitted to estimate the annual change in rates and the significance of independent variables to explain variance in change in rate [13]. Chi-square was used to test for associations between categorical variables. Statistical significance was defined as  $P < 0.05$  based on a two-tailed test.

## Results

Rates for each age-race-sex group were calculated (Table 1). The average annual homicide rate for Jefferson County over the 12-year study period was 18.9. The average annual homicide rate among blacks (41.4) was almost six times the rate among whites (7.1); and, males (32.4) had almost five times the rate of females (7.0). The highest average annual race-sex specific homicide rate was in black males (75.9), followed by black females (12.4), white males (10.4) and white females (4.1).

TABLE 1—Average annual homicide rates (per 100,000) for each age-race-sex group.

Age	BM	WM	BF	WF	B	W	M	F	Total
0-4	3.3	2.4	6.5	1.3	4.9	1.8	2.8	3.6	3.2
5-9	0.8	0.6	2.5	1.8	1.7	1.2	0.7	2.1	1.4
10-14	6.5	0.0	4.9	0.6	5.7	0.3	2.7	2.4	2.6
15-24	96.2	9.7	12.9	5.3	52.4	7.5	42.1	8.2	24.7
25-34	159.7	16.9	21.4	5.6	83.9	11.2	61.4	11.1	35.3
35-44	151.7	12.8	16.7	4.8	76.4	8.7	51.8	8.6	29.0
45-54	79.4	11.6	15.0	3.3	42.2	7.2	29.2	6.8	17.1
55-64	66.3	15.9	7.2	3.4	32.0	9.1	29.2	4.5	15.6
65+	41.9	9.2	13.5	5.2	24.6	6.7	19.8	7.8	12.3
All	75.9	10.4	12.4	4.1	41.4	7.1	32.4	7.0	18.9

(BM = Black Males, n = 940) (WM = White Males, n = 257) (BF = Black Females, n = 185) (WF = White Females, n = 113)

The 25-34 year age group had the highest, average annual homicide rate (35.5), followed by the 35-44 and 15-24 age groups (29.0 and 24.7, respectively). Black males in the 25-34 year age group had the highest homicide rate (159.7), followed by those in the 35-44 (151.7) and the 15-24 (96.2) age groups. These rates ranged from almost eight to over eleven times the rates of similarly aged, black females or white males and were over 33 times higher than the rates for white females of the same age.

For the total population, the homicide rate was higher in the 0-4 year age group than in the 5-9 or 10-14 year age groups. Among blacks, however, males 5-9 years old had the lowest rates for any age group. It is not until the 10-14 year age group that black males had the highest race-sex rates. These rates continued to increase to age 34. After age 44, the black male rate dropped almost in half. Nonetheless, the black male homicide rate remained many times higher than that of any other race-sex group for the remainder of the life span.

Overall, during the 12-year period the homicide rate declined 0.17 per year (Table 2) ( $P < 0.05$ ). The rate among blacks decreased at a rate of 0.23, twice the rate of the white decrease, 0.12. However, the percentage decrease was greater among whites (1.7% -vs- 0.6%). Perhaps surprisingly, black males had the greatest rate of annual decline (0.42), twice as great a rate of decline as white males (0.21), and much greater than the rates of decline among females (0.03). When examining percent decline, white males had a greater decline than black males (2.0% -vs- 0.6%). There were no statistically significant differences between subgroups when they were compared.

Despite the overall decline, the rates increased in the individual age groups between

TABLE 2—Average annual change in homicide rate (per 100,000) 1978-1989.

Age	BM	WM	BF	WF	B	W	M	F	Total
0-4	-1.00	-0.24	0.26	0.02	-0.37	-0.11	-0.62	0.14	-0.24
5-9	-0.38	0.24	-0.62	0.25	-0.50	0.24	-0.07	-0.19	-0.13
10-14	1.35	0.00	0.06	0.31	0.70	0.16	0.67	0.19	0.43
15-24	4.44	-0.77	-0.05	-0.05	2.20	-0.41	1.83	-0.05	0.89
25-34	-0.03	-0.08	1.86	0.25	0.91	0.09	-0.06	1.06	0.50
35-44	0.15	0.06	0.38	-0.55	0.27	-0.24	0.11	-0.08	0.01
45-54	-1.09	-0.54	-0.77	-0.20	-0.93	-0.37	-0.81	-0.49	-0.65
55-64	-5.03	-0.38	-0.87	-0.24	-2.95	-0.31	-2.70	-0.56	-1.63
65+	-2.21	-0.13	-0.53	-0.07	-1.37	-0.10	-1.17	-0.30	-0.74
All	-0.42	-0.21	-0.03	-0.02	-0.23	-0.12	-0.31	-0.03	-0.17

10 and 44 years of age with the greatest increase noted in the 15 to 24 year age group (0.89). The increase in this latter age group was exclusively the result of an increase in the rate among black males (4.44) with all other race-sex groups in this age group showing a decline. This rate of increase was the greatest of all age-race-sex groups. The only other black male age groups to have an increase were 10–14 and 35–44 year old (1.35 and 0.15 respectively). Black males 55–64 years of age had the highest rate of decline (5.03) of any age-race-sex groups, followed by black males in the 65+ and 45–54 year age groups (2.21 and 1.09 respectively).

The race-sex of the perpetrator was known more frequently for black male victims than for any other race-sex group (Table 3). Black males were most likely to be killed by other black males (74.4%). Black females were the next most likely killer of black males (21.6%). Black males were somewhat more likely to be killed by black females than white males were to be killed by white females (12.8%). About 4% of the time, black males were killed by a white. Black males were the most likely killer of black females (85.5%). There was no significant change in these proportions over time, overall or in any age-race-sex group.

The relationship of the perpetrator to the victim was more likely to be known in the case of a black than a white victim ( $P < 0.05$ ), with only 22.6% of the perpetrator-victim relationships being unknown among blacks compared with 36.2% among whites (Table 4). Similarly, the relationship between perpetrator and victim was more likely to be known for females than males ( $P < 0.05$ ). The most likely perpetrator in all race-sex groups was an acquaintance (77.0%). There was no significant difference between black and white males. Both black and white males were less likely to be killed by a relative than were females ( $P < 0.05$ ). There was no significant change in these proportions over time, overall or in any age-race-sex group.

Overall, 55% of victims tested positive for alcohol. Males of both races were significantly more likely to test positive for alcohol than females ( $P < 0.05$ ). Sixty-one percent of all young adult black homicide victims and 58% of their white counterparts tested positive for alcohol, however, this difference was not statistically significant. Moreover, the same proportion of young adult black victims had blood alcohol levels above Alabama's statutory definition for intoxication (0.10 gm%) as did their young adult white counterparts (44.6%) ( $P < 0.99$ ). The rate of young adult homicide victims with measurable alcohol in their bodies at autopsy declined significantly ( $P < 0.02$ ), throughout the study period. All race-sex groups declined, but there were no significant differences in the rate of decline across the race-sex groups. Similarly, there was a significant ( $P < 0.001$ ) decline (0.016) in the annual rate of intoxication over time. All race-sex groups

TABLE 3—Percent of victims by race-sex of perpetrator.

Victim		Perpetrator						Unknown <sup>b</sup>
		Black			White			
		Male	Female	Overall	Male	Female	Overall	
Black	Male	74.4 <sup>a</sup>	21.6	—	3.5	0.5	—	12.4
	Female	85.5	13.3	—	1.2	0.0	—	13.5
	Overall	—	—	96.4	—	—	3.6	
White	Male	30.1	1.3	—	55.8	12.8	—	19.1
	Female	21.6	1.0	—	68.6	8.8	—	14.2
	Overall	—	—	23.3	—	—	76.7	

<sup>a</sup>Percent excluding unknowns.

<sup>b</sup>Percent of total.

TABLE 4—Percent of victims by their relationship to perpetrator.

Victim	Perpetrator				
	Relative	Acquaintance	No Relation	Unknown	
Black	Male	22.1 <sup>a</sup>	74.7	3.2	23.2 <sup>b</sup>
	Female	34.9	64.4	0.7	19.5
	Overall	24.4	72.9	2.7	22.6
White	Male	31.5	64.7	3.8	39.3
	Female	50.0	50.0	0.0	29.2
	Overall	37.7	59.7	2.6	36.2
Overall	Male	23.8	72.9	3.3	26.6
	Female	40.2	59.4	0.4	23.1
	Overall	30.0	77.0	3.0	25.9

<sup>a</sup>Percent excluding unknowns.

<sup>b</sup>Percent of total.

except white males showed a decline. Young adults had a significantly greater rate of decline than other age groups ( $P < 0.05$ ).

Overall 9.2% of victims tested positive for controlled substances (barbiturates, psychoactive compounds, etc.). Young adult black males had the highest rate with 14% testing positive compared with 9% of the young adult white male homicide victims ( $P < 0.05$ ). In contrast to alcohol, the annual rate of victims who were positive for controlled substances (0.023) increased significantly ( $P < 0.001$ ) over the study period. There were no significant differences across race-sex groups in the annual rate of increase in victims positive for controlled substances; however, the annual rate of increase was greater for young adults (0.028) than in other age groups (0.005).

Arguments were the most common underlying reason for homicides in both black and white males although they accounted for a significantly greater proportion of deaths among black males (40.0% vs 29.2%) ( $P < 0.05$ ) (Table 5). Further, arguments were not a significantly greater underlying reason for homicides in young black males compared to black males of other ages (41.2% vs. 35.6%). The annual rate of arguments as an underlying reason for homicide has declined significantly overall (0.008,  $P < 0.005$ ) and, in all race-sex groups except for white females. The decline was significant in black males (0.011,  $P < 0.01$ ), and in young adult black males specifically (0.013,  $P < 0.01$ ). Domestic disputes, which were the most frequent underlying reason for homicide among females, were the second most common underlying reason among black males, but only the third most common among white males. There was no change over time in this underlying reason, overall or in any race-sex group.

Black males were proportionally less likely to be killed during the commission of a felony (9.9%) than white males (21.0%), although the absolute rate was higher among black males. Similarly, white males were proportionally more likely to be killed for a drug or alcohol-related cause (3.9%) than black males (2.8%), although the absolute rate was higher among black males. Somewhat surprisingly, drug and alcohol-related homicides for the overall population as well as for young adult black males increased at precisely the same average rate of 0.003 per year. There were no significant differences in the rate of increase across race-sex groups.

Firearms were implicated in 72% of the homicides (Table 6) with their use being reported somewhat more often in homicides involving black male victims (77.1%) than white male victims (72.0%). Overall, males were more likely to be killed by a firearm than females. The rates for other methods were similar among males, with knifings being slightly more common among black males and blunt force being slightly more common

TABLE 5—Underlying Reason for Homicide by Race and Sex of Victim.

Victim	Argument	Domestic Dispute	Felony	Passion	Drug/Alcohol Related	Rape	Other
Black	Male	40.0	9.9	6.6	2.8	0.0	24.6
	Female	16.8	9.2	2.2	13.6	4.9	33.0
	Overall	36.2	9.8	5.9	2.6	0.8	26.0
White	Male	29.2	21.0	5.5	3.9	0.0	26.9
	Female	8.9	9.7	2.7	0.9	13.3	35.4
	Overall	23.8	17.6	4.6	3.8	4.1	29.5
Overall	Male	37.7	12.3	6.4	3.1	0.0	25.1
	Female	13.8	9.4	2.3	1.3	8.1	33.9
	Overall	32.0	11.7	5.6	2.7	1.6	26.8

(Percentages within specific groups).

TABLE 6—*Method used to accomplish homicide by race and sex.*

Victim	Method of Homicide									
	Firearms	Sharp Instruments	Blunt Force	Fire/Arson	Train/Motor Vehicle	Strangulation	Drugs/Gas	Neglect/Starvation	Other	Unknown
Black	77.1	17.7	3.5	0.5	0.3	0.3	0.1	0.1	0.6	0.1
Male	62.7	14.1	10.3	2.7	2.2	2.2	0.5	0.5	3.8	1.1
Female	74.7	16.7	4.6	0.9	0.6	0.6	0.9	0.9	1.2	0.3
Overall	72.0	14.4	7.0	0.4	2.7	1.8	0.0	0.0	3.9	0.4
White	46.0	22.1	16.8	2.7	5.3	1.8	0.0	0.0	3.5	3.9
Male	64.1	16.8	10.0	1.1	2.4	1.1	0.0	0.0	3.8	0.8
Female	76.0	16.6	4.2	0.5	0.6	0.4	0.1	0.1	1.3	0.2
Overall	56.4	17.1	12.8	2.7	3.4	2.0	0.3	0.3	3.7	1.3
Male	72.1	16.7	5.9	0.9	1.1	0.7	0.1	0.1	1.8	0.4

(Rates are expressed as percentages within the group. Forty-one cases have missing data and were subsequently excluded from these calculations.)

among white males. There were no significant changes in the proportion of homicides by firearms over time, overall or in any race-sex group.

## Discussion

The average homicide rate in Jefferson County, Alabama during the period between 1978 and 1989 was 18.9 per 100,000. This rate was higher than both Alabama's (11.3 per 100,000, 1979–1988) and the Nation's (9.3 per 100,000, 1979–1988) [5]. Similarly, black males in Jefferson County, Alabama had a cumulative homicide rate that was higher than the rate for black males in Alabama or for black males in the U.S. as a whole (56.9 per 100,000, 1979–1988) [6].

Black males were more likely to be homicide victims than any other race-sex group. This is consistent with numerous other reports [2,4–11]. It was particularly young adult black males who had significantly higher homicide rates than any other age-race-sex group. In fact, among black males, those between 25 and 44 years of age had the highest overall homicide rates. This is consistent with that reported by other workers [2,6]. It should be emphasized however, that while the raw numbers and rates are staggering, the average annual homicide rate for black males was actually declining at a greater rate than for all other race-sex groups, despite the rapid increase in the 15–24 year old age groups. The percent decline for black males was second only to white males. Albeit modest, this finding seems to offer some hope for the future.

On the other hand, the rapid increase in the homicide rate among black males between 15 and 24 years of age, which we found, has been noted in national statistics as well [6]. However, the increase in this age group was found only among black males suggesting that the cause of this increase is specific to this age-race-sex group. Perhaps, the growth of gangs is one major reason for the increase in this age group. For example, drive-by-shootings involving black teenage gang members have, unfortunately, become an all too common occurrence. Moreover, our findings suggest that other hypothesized determinants for the specific increase such as drug use, increased availability of firearms, and increased child abuse were not major determinants. While the presence of controlled substances in victims increased over the twelve-year study period in all young race-sex groups, the rate of increase among young adults in drug or alcohol-related homicides actually increased at a slower rate among black males. Further, the proportion of homicides related to firearms did not change significantly over time, nor did the differential in black males 10–24 years of age compared to similarly aged victims of other race-sex groups. Homicide rates among black males below age 10 were lower than some other race-sex groups. If we assume that the homicide rate of children is a fixed proportion of the child abuse rate, this suggests that increased child abuse of black males is not an explanation.

In this study, arguments were the major underlying reason for deaths among males, particularly black males. This is similar to that which has been reported for black males for the U.S. (37.0%) [2]. This is consistent, also, with the finding that among black males nearly all black males were killed by other black males and that most victims and perpetrators were at least acquainted with one another; findings which have also been reported by others [2,7]. Given that domestic disputes were the second most common underlying reason for homicides among black males, these two precursors taken together point up the possible importance of efforts to teach non-violent conflict resolution skills to those groups that are at greatest risk. Our detailed review of incident reports indicates that many victims and assailants were “drinking buddies” and that the homicide resulted from an unplanned and unanticipated argument. This is supported by the high proportion of male victims, both black and white, who were positive for alcohol or intoxicated. We did not find, as have some others [15], that alcohol is more commonly found in the



blood of black, male victims than white males. This supports the need to focus on alcohol-related violence for white as well as black males.

Firearms were implicated in a high proportion of homicides as has been reported by others [2,16–18]. In fact, firearms were the “weapon of choice” among all groups, especially males—both black and white. The percentage of homicides involving firearms was higher for black males in this study (77.1%) than that which has been reported for U.S. black males as a whole (70.6%) [6]. However, our results were not consistent with other reports that changes in firearms use were determinants of changes in homicide rates over time [6].

The presence of controlled substances in the victim was more frequent among black males than any other race-sex group; however it should be noted that the presence of controlled substances and drug or alcohol-related homicides was increasing among all race-sex groups. This suggests that while control of the drug problem in black males may lead to the prevention of some homicides, it is as important to control it in other race-sex groups as well.

We agree with other workers that Medical Examiners’ reports represent a most important source of epidemiologic information for the surveillance of homicide-related mortality [19–21]. Information pertaining to toxicologic analyses, causes and means of death, types of weapons used, possible and plausible motives, relationships of the victim to the assailant, times and dates, etc. is most readily available through the Medical Examiners’ reports. In sharp contrast, most health department data are restricted to basic demographic information.

Further, our results underscore that which injury control workers, law enforcement officials, and social and forensic scientists already know: there is a fratricidal war going on among black males, especially among young black males, in America’s urban areas. In fact, as Rosenberg and Mercy point out, “Young black men have experienced homicide rates five to ten times higher than young white men during the last two decades” [22]. To this end, our findings support that which has been previously reported, namely, that black males in the 15–34 year age group are at excessive risk of becoming homicide victims and their risk is increasing. Specifically, young black males are at least eight times more likely to die as a result of a homicide than are their white counterparts. This notwithstanding, it is important to re-emphasize that we found an annual rate of decline in homicide rates among older black males that was twice that of their white counterparts. Thus, despite the discouraging statistics characterizing homicide risks and rates in young black males, we are encouraged by the finding that this is not the case for all blacks and that rates and risks decline as the population ages. Moreover, in an era of diminishing resources, findings such as ours are important because they provide workers with an objective basis for developing, targeting and testing interventions. For example, since the greatest risk of homicide is found among young black males, intervention strategies targeting very young black male children—such as teaching conflict resolution skills throughout elementary and middle school years—may prove to have a highly desirable long-term effect in reducing the number of homicide related deaths occurring in persons entering the 15–34 year age cohort. Although a long-term commitment would be required before positive outcomes might be demonstrable, current approaches do not appear to be working with any measure of certainty or predictability.

Rosenberg and Mercy [22] go on to posit that, historically, assaultive violence has been considered to be the sole domain of the criminal justice system with strategies intended to deal with and reduce violence relying almost entirely on the police, the courts and penal institutions. Despite efforts of the criminal justice system, national homicide statistics have skyrocketed since the 1960s. Thus, redefining homicide as a public health problem (instead of solely as a criminal justice problem) suggests that it has the potential to be addressed and remedied, and not viewed simply as an inalterable fact of life.

There are, in addition, two findings from the current study which comes as little surprise in light of that reported by other workers and observed, anecdotally by countless Medical Examiners. First, arguments or inter-personal disputes are a leading underlying cause or precipitating event in many homicides. Second, in a majority of homicides, the perpetrator and the victim were acquainted. With regard to the former, this finding reinforces the hypothesis that one possible way of reducing homicide is to teach non-violent, conflict resolution skills to groups that are most at risk. With regard to the latter finding, the potential benefit of "at risk persons" acquiring conflict resolution skills is equally apparent. With regard to both findings, it is interesting to speculate about the possible role of access to weapons and the occurrence of homicide. Some contend that gun control is the sine qua non of reducing the homicide rate. Yet, Ohsfeldt and Morrissey [23] found that banning handguns might not have the predicted (i.e., desired) effect on lowering homicide rates. In their analysis of several studies reporting significant reductions in homicide (and suicide) rates associated with stringent local control of handguns, they detected significant design and methodologic limitations that call into question the usefulness and veracity of reported results. For example, they were unable to find any research studies that addressed why people chose to own guns (that is, for recreation, self-protection or criminal purposes) nor, were they able to find any studies taking into account the likely behavioral responses of persons to laws limiting their access to handguns. As Ohsfeldt and Morrissey point out:

"The most difficult problem in estimating the effects of gun control on firearm-related deaths is accounting for the impact of this kind of violence on the adoption of gun control laws. No published study to date has made adjustments for this relationship in arriving at its conclusions. If gun control laws are enacted as a response to high rates of violent crime, or, conversely are more politically feasible when gun ownership is rare, then statistical associations between the presence of gun control laws and death rates are not reliable."

Since there are no data addressing the reasons gun laws exist in the first place, it is difficult to predict with any confidence how banning handguns would effect the incidence of homicide or other violent acts.

Nonetheless, we share Rosenberg and Mercy's belief that the public health approach with its focus on epidemiologic analysis of rigorously derived data and prevention can make a substantial contribution to reducing the enormous number of deaths resulting from homicide each year. Moreover, we hope that some of our findings, especially those casting new light on several hypothesized determinants previously believed to be causally associated with increasing homicide rates, will provide others with insights that can be used to achieve a measurable reduction in the frequency of homicides, especially among young black males. However, based on the work of Ohsfeldt and Morrissey, coupled with results from this study, one cannot conclude, unequivocally, that gun control laws in and of themselves will be a primary factor responsible for reducing the incidence of homicide in population groups determined to be most at risk.

## References

- [1] Annual Summary of Births, Marriages, Divorces, and Deaths: United States 1991. *Monthly Vital Statistics Report*, Centers for Disease Control, Vol. 40, No. 13, 1992, p. 6.
- [2] CDC, Homicide Among Young Black Males—United States, 1970–1982, *MMWR*, Vol. 34, 1985, pp. 629–633.
- [3] Healthy People 2000, National Health Promotion Disease Prevention Objectives, U.S. Department of Health and Human Services, PHS, DHHS publication number (PHS)91-50212 (Complete Report).
- [4] Lowry, P. W., Hassig, S. E., Gunn, R. A., and Mathison, J. B., "Homicide Victims in New Orleans: Recent Trends," *American Journal of Epidemiology*, Vol. 128, No. 5, 1988, pp. 1130–1136.

- [5] Loya, F., Mercy, J. A., Allen, N. H., Vargas, L. A., Smith, J. S., Goodman, R. A., and Rosenberg, M. L., "The Epidemiology of Homicide in the City of Los Angeles 1970-1979," *Public Health Service, Centers for Disease Control*, August 1985.
- [6] Hammett, M., Powell, K., O'Carroll, P., and Clanton, S., "Homicide Surveillance—United States, 1979-1980," *MMWR*, SS-3, Vol. 41, pp. 1-33.
- [7] Rosenberg, M. and Mercy, J., "Homicide: Epidemiologic Analysis at the National Level," *Bulletin of the New York Academy of Medicine*, Vol. 62, No. 5, June 1986, pp. 376-399.
- [8] Jason, J., Flock, M., and Tyler, C., Jr., "Epidemiologic Characteristics of Primary Homicides in the United States," *American Journal of Epidemiology*, Vol. 117, 1983, pp. 419-428.
- [9] Riddick, L., Brissey, R., Embry, J., Cumberland, G., Gilchrist, T., Glass, J., and Rabben, C., "Homicide in Alabama: An Analysis of Urban Suburban and Rural Murders in the Deep South," *Forensic Science International*, Vol. 40, 1989, pp. 105-122.
- [10] Wolfgang, M. E., *Patterns in Criminal Homicide*, University of Pennsylvania, Philadelphia, PA, 1958.
- [11] Shin, Y., Jedlicka, D., and Lee, E. S., "Homicide Among Blacks," *Phylon*, Vol. 38, 1977, pp. 398-407.
- [12] Liu, T., Waterbor, J. W., Roseman, J. M., Coombs, D. W., Maetz, H. M., and Soong, S., "Suicide in Alabama, 1980-1989," *Southern Medical Journal*, Vol. 87, No. 1, Jan. 1994, pp. 10-16.
- [13] Snedecor, G. W. and Cochran, W. G., *Statistical Methods*, 7th Ed., Ames, Iowa, The Iowa State University Press, 1980.
- [14] Johnnie Johnson Jr., Birmingham Police Chief, personal communication.
- [15] Welte, J. and Abel, E., "Homicide and Race in Erie County, New York," *American Journal of Epidemiology*, Vol. 124, No. 4, 1986, pp. 666-670.
- [16] Wintemute, G., "Firearms As a Cause of Death in the United States, 1920-1982," *Journal of Trauma*, Vol. 27, No. 5, May 1987, pp. 532-536.
- [17] Alexander, G., Massey, R., Gibbs, T., and Altekruze, J., "Firearm-Related Fatalities: An Epidemiologic Assessment of Violent Death," *American Journal of Public Health*, Vol. 75, No. 2, 1985, pp. 165-168.
- [18] American Medical Association Council on Scientific Affairs, "Firearm Injuries and Deaths: A Critical Public Health Issue," *Public Health Reports*, Vol. 104, No. 2, March-April 1989, pp. 111-120.
- [19] Goodman, R., Herndon, J., Istre, G., Jordan, F., and Kelaghan, J., "Fatal Injuries in Oklahoma: Descriptive Epidemiology Using Medical Examiner Data," *Southern Medical Journal*, Vol. 82, No. 9, Sept. 1989, pp. 1128-1134.
- [20] Graitcer, P., Williams, W., Finton, R., Goodman, R., Thacker, S., and Hanzlick, R., "An Evaluation of the Use of Medical Examiner Data for Epidemiologic Surveillance," *American Journal of Public Health*, Vol. 77, No. 9, Sept. 1987, pp. 1212-1214.
- [21] Briggs, R., "Quality of Death Certificate Diagnosis As Compared to Autopsy Findings," *Arizona Medicine*, Vol. 32, No. 8, Aug. 1975, pp. 617-619.
- [22] Fenley, M. and Rosenberg, M., *Violence in America: A Public Health Approach*, Oxford University Press, 1991, p. 19.
- [23] Ohsfeldt, R. and Morrissey, M., "Firearms, Firearms Injury, and Gun Control: A Critical Survey of the Literature," *Advances in Health Economics and Health Services Research*, Vol. 13, 1992.

Address requests for reprints or additional information to  
 Philip R. Fine, Ph.D., M.S.P.H.  
 UAB Injury Control Research Center  
 933 South 19th Street Suite 403  
 Birmingham, AL 35294-2041