# A Study of Homicides in Manhattan, 1981

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**Abstract:** There were 573 persons murdered in Manhattan (New York) during 1981 for an overall rate of 40.5 per 100,000 population. The male, young, and Black or Latino populations were at higher risk of being homicide victims. For male victims, the homicides were the result of disputes in 37.6 per cent of the cases, drug-related activities in 37.6 per cent, and robbery and other criminal activities in 24.8 per cent of cases. For female victims, homicides resulted from disputes in 62.2 per cent of cases, drug-related activities in 13.8 per cent, and robberies in 20.0 per cent of cases. The observed proportion of homicides related to drug and other criminal activities was higher than has been reported previously in the United States. The role of alcohol continued to be important in homicides related to disputes. The authors stress the importance of differentiating drug-related homicides from those associated with other criminal activities. (*Am J Public Health* 1986; 76:139–143.)

## Introduction

Homicide accounts for over 1 per cent of deaths in the United States. The homicide rate for men is four times higher than that for women. For both sexes, the 25–34 year old group has the highest rates, and rates for non-Whites are about 8–15 times greater than those for Whites. Trauma classified as homicide is currently the leading cause of death for Black men and women ages 25–34 years.[1–4] Another way of expressing the differential in terms of sex and race is the probable number of homicide victims per 100,000 live births. Out of 100,000 live births, 165 White females, 538 White males, 806 non-White females, and 3,460 non-White males would be expected to be murdered during their lifetimes.[5]

Local studies of the epidemiology of homicide in the United States, which have taken a more in-depth view of homicide, have confirmed the national experience and have found that homicides frequently occurred between family, friends, and acquaintances, and that the role of alcohol and firearms appeared to be important.[6–14]

Our study assessed a large number of victims in a small time interval, thus ensuring the ability to relate findings to a specific time period. Most importantly, our study classified homicides into three categories in terms of whether they were related to: 1) drug dealing, 2) robbery and other criminal activities, or 3) disputes. In the past, local studies did not differentiate between these types of homicides; however, more recently the first two types were considered together as secondary homicides (those committed during the perpetration of some other crime) and were compared to the third type designated as primary homicides (those not related to other crimes.)[15]

## Methods

The subjects included all known homicide victims killed in the borough of Manhattan, New York City, from January 1981 through December 1981. In the summer of 1982, using a closed-ended worksheet, researchers collected data on these victims from the autopsy records of the New York City Chief Medical Examiner's Office. The Medical Examiner routinely tests cases for presence of alcohol and drugs. The source of data for denominators for calculation of rates was the 1980 census tapes for Manhattan.[16] At the end of 1982, when investigation of the homicide had proceeded for at least one year, the Office of the Chief of Detectives of the New York City Police Department was asked to classify the circumstances of the homicide and the relationship of the victim to the perpetrator. It should be noted that the homicide was classified as "drug-related" in cases where drug dealing preceded the homicide, usually of the drug dealer, even if it involved a robbery. This classification was used by the New York City Police for the first time in 1981 to reflect their perception that in most cases it was the drug dealing which precipitated the robbery and homicide. Homicide classification as drug-related also took precedence over classification as burglary, disputes, and sexual assault homicides. Homicide associated with sexual assaults (N = 5) and with burglaries (N = 6) were not frequent. Homicides categorized by the police as justified (N = 15), unless drug-related, were classified as robberies because victims were killed by officers or shop owners during a robbery or arrest for their crimes. Perpetrator data were not limited to those perpetrators who were arrested, but rather included all instances where the suspect was known to the police at the time of the analysis. Family members were defined broadly to include common-law as well as boy or girl friend relationships.

## Results

There were 578 homicides in Manhattan in 1981, 40.5 per 100,000 population. The characteristics of victims are presented in Table 1. The rate for males is 7.3 times that for females and the rate for Blacks is 7.7 times that of Whites. The homicide rate is highest for ages 10–34 years. In view of the trivial number of homicides in the population under 10 years of age, subsequent analyses will be restricted to victims 10 years of age and over, and rates will be based on this subset of the population.

A more detailed breakdown of age, sex, race-specific homicide rates is presented in Table 2. A higher rate for males is observed for all race and age categories, except for the elderly Whites. Young adults, particularly ages 25–34, are consistently distinguished by high homicide rates within sex and race categories, except for White females. Blacks and Latinos (primarily of Puerto Rican origin in New York City) have higher rates than Whites in all age groups. The extreme variability in the likelihood of death by homicide is illustrated by the fact that the rate for Black males in the 25–34 age bracket (408.5) is more than 200 times greater than the rate for White females in the same age category (1.9).

**TABLE 1—Homicide Rates by Demographic Characteristics of Victims**

| Characteristics | Number of Victims | Population | Rates per 100,000 | Relative Risk[a] | (95% CL)[b] |
|---|---|---|---|---|---|
| All Groups | 578 | 1,428,285 | 40.5 | | |
| Sex | | | | | |
| Male | 500 | 669,704 | 74.7 | 7.3 | (5.7, 9.2) |
| Female | 78 | 758,581 | 10.3 | 1.0 | |
| Race | | | | | |
| Black | 293 | 290,218 | 101.1 | 7.7 | (6.2, 9.3) |
| Latino | 180 | 336,247 | 53.6 | 4.0 | (3.1, 5.0) |
| White | 105 | 801,820 | 13.1 | 1.0 | |
| Age (years) | | | | | |
| Under 10 | 3 | 131,839 | 2.3 | 0.2 | (0.1, 0.6) |
| 10–24 | 148 | 184,192 | 52.1 | 4.3 | (2.8, 6.5) |
| 25–34 | 203 | 308,964 | 65. | 5.4 | (3.5, 8.3) |
| 35–64 | 199 | 498,853 | 39.9 | 3.3 | (2.2, 4.9) |
| 65 and older | 25 | 204,437 | 12.2 | 1.0 | |

a) Ratio of corresponding rate to reference category, i.e., females, Whites, or victims 65 years and older.
b) Confidence intervals are estimated by calculating the interval in logarithmic scale and then taking antilogarithms.

**TABLE 2—Age-, Race-, Sex-specific Homicide Rates[a] and Relative Risk for Males vs Females**

| Age (years) | Race | Male | Female | Relative Risk[b] | (95% CL)[c] |
|---|---|---|---|---|---|
| 10–24 | Black | 191.4 (33,433) | 25.1 (35,836) | 7.6 | (3.8, 15.3) |
| | Latino | 107.9 (45,397) | 8.4 (47,448) | 12.95 | (4.6, 36.6) |
| | White | 25.8 (58,040) | 10.9 (64,038) | 2.4 | (1.0, 5.8) |
| 25–34 | Black | 408.5 (21,789) | 59.2 (23,659) | 6.9 | (3.9, 12.1) |
| | Latino | 226.4 (28,707) | 28.6 (31,461) | 7.9 | (3.9, 15.9) |
| | White | 226.2 (99,047) | 1.9 (104,301) | 119.1 | (29.8, 483.4) |
| 35–64 | Black | 190.2 (47,838) | 22.9 (56,664) | 8.3 | (4.6, 14.9) |
| | Latino | 94.6 (48,639) | 6.93 (57,711) | 13.7 | (4.9, 37.9) |
| | White | 25.7 (143,702) | 5.54 (144,299) | 4.6 | (2.2, 10.0) |
| 65+ | Black | 57.7 (13,863) | 8.3 (24,050) | 7.0 | (1.5, 32.8) |
| | Latino | 38.0 (7,901) | 0.0 (12,804) | — | — |
| | White | 9.23 (54,147) | 7.64 (91,672) | 1.2 | (0.4, 3.8) |

a) Rates are expressed per 100,000 population. Population counts are provided in parentheses.
b) The reference group for each risk estimate is the group of females.
c) Confidence intervals are estimated by calculating the interval in logarithmic scale and then taking antilogarithms.

Table 3 presents sex-specific homicide rates for the various circumstances surrounding the homicide. Males have an exceptionally high risk of drug-related homicides, approximately 20 times the female rate. Conversely, the smallest sex difference in homicide risk, in terms of circumstances, is for homicides related to disputes where males are only four times more likely to be victims of this type of homicide than are females. Males are about 28 times more likely to be killed by strangers than are females. The risk of death by family members, in contrast, is similar for the two sexes.

A similar analysis of race-specific rates is presented in Table 4. Blacks are at the highest risk levels for all types of homicides; the Latino population has intermediate risk levels

**TABLE 3—Homicide Rates[a] According to Circumstances and Victim-perpetrator Relationship, by Sex of the Victim**

| Circumstances/Relationship | Sex | | Relative Risk[b] | (95% CL)[c] |
|---|---|---|---|---|
| | Male | Female | | |
| Circumstances | | | | |
| Drug-related | 25.9 (156) | 1.3 (9) | 19.9 | (10.2, 39.0) |
| Robbery and other crimes | 17.1 (103) | 1.9 (13) | 9.1 | (5.1, 16.3) |
| Disputes | 25.9 (156) | 6.2 (43) | 4.2 | (3.0, 5.9) |
| Victim-Perpetrator Relationship | | | | |
| Family | 4.5 (27) | 3.5 (24) | 1.3 | (0.8, 2.2) |
| Friends and Acquaintances | 49.1 (296) | 5.0 (35) | 9.8 | (6.9, 13.8) |
| Strangers | 16.4 (99) | 0.6 (4) | 28.3 | (10.4, 77.0) |

a) Rates are based on the population ages 10 and over (see Table 2). The number of victims in each cell is provided in parentheses. Totals are not identical across classifications because of missing data.
b) The reference group for each category is the group of females.
c) Confidence intervals are estimated by calculating the interval in logarithmic scale and then taking antilogarithms.

and the White population is characterized by the lowest risk levels. The discrepancies between the rates for Blacks and Whites are especially great for drug-related homicides, and for homicides involving family members.

A similar analysis by age-specific rates is presented in Table 5. Rates for drug-related homicides and disputes are higher in the population under 35 years of age, while the elderly have very low homicide rates, particularly for drug-related homicides. The rate of homicides involving robberies are higher than rates of other types of homicides in the elderly. The populations under 35 years of age have especially high rates of homicides involving friends and acquaintances.

We analyzed classification of homicide by the nature of the victim-perpetrator relationship for males and females separately and found that family members are more likely involved in homicides during disputes, whereas drug-related homicides involve friends and acquaintances, and robberies

TABLE 4—Homicide Rates* According to Circumstances and Victim-Perpetrator Relationship, by Race of the Victim

| Circumstances/Relationship | Blacks | Latinos | Whites | Relative Risk^b | (95% CL)^c |
|---|---|---|---|---|---|
| **Circumstances** | | | | | |
| Drug-related | 37.0 | 18.6 | 2.4 | 15.6 | (9.4, 25.8) |
| | (95) | (52) | (18) | | |
| Robbery and other crimes | 19.8 | 11.4 | 4.4 | 4.6 | (2.9, 7.1) |
| | (51) | (32) | (33) | | |
| Disputes | 40.8 | 21.4 | 4.5 | 9.1 | (6.0, 13.4) |
| | (105) | (60) | (34) | | |
| **Victim-Perpetrator Relationship** | | | | | |
| Family | 13.2 | 3.9 | 0.8 | 16.7 | (7.0, 39.9) |
| | (34) | (11) | (6) | | |
| Friends and Acquaintances | 68.1 | 36.1 | 7.2 | 9.4 | (6.9, 12.7) |
| | (175) | (101) | (55) | | |
| Strangers | 15.2 | 12.5 | 3.8 | 4.0 | (2.5, 6.4) |
| | (39) | (35) | (29) | | |

a) Rates are based on the population ages 10 and over (see Table 2). The number of victims in each cell is provided in parentheses. Totals are not identical across classifications because of missing data.
b) Ratio of Black group to White group.
c) Confidence Intervals are estimated by calculating the interval in logarithmic scale and then taking antilogarithms.

TABLE 5—Homicide Rates* According to Circumstances and Victim-Perpetrator Relationship, by Age of Victim

| Circumstances/Relationship | Age (years) | | | | Relative Risk^b | 95% Confidence Interval^c | |
|---|---|---|---|---|---|---|---|
| | 10–24 | 25–34 | 35–64 | 65+ | | Lower Limit | Upper Limit |
| **Circumstances** | | | | | | | |
| Drug-related | 17.2 | 21.0 | 10.0 | 0.0 | — | — | — |
| | (49) | (65) | (50) | (0) | | | |
| Robbery and other crimes | 8.4 | 10.0 | 9.8 | 5.4 | 2.0 | 0.9, | 3.7 |
| | (24) | (31) | (49) | (11) | | | |
| Disputes | 16.5 | 23.0 | 15.2 | 2.0 | 11.7 | 4.3, | 32.1 |
| | (47) | (71) | (76) | (4) | | | |
| **Victim-Perpetrator Relationship** | | | | | | | |
| Family | 3.2 | 4.5 | 4.4 | 2.0 | 2.3 | 0.8, | 7.0 |
| | (9) | (14) | (22) | (4) | | | |
| Friends and Acquaintances | 31.7 | 39.5 | 22.9 | 2.0 | 10.2 | 7.4, | 54.6 |
| | (90) | (122) | (114) | (4) | | | |
| Strangers | 9.9 | 12.3 | 6.4 | 2.5 | 5.0 | 2.0, | 12.8 |
| | (28) | (38) | (32) | (5) | | | |

a) Rates are based on the population ages 10 and over (see Table 2). The number of victims in each cell is provided in parentheses. Totals are not identical across classifications because of missing data.
b) Ratio of 25–34 year group to 65+ year group.
c) Confidence intervals are estimated by calculating the interval in logarithmic scale and then taking antilogarithms.

involve strangers. The association held for both sexes (data available on request to authors).

We examined the relationship between weapon responsible for death and the sex of the victim and found that firearms, usually handguns, are responsible for death of male victims in 63 per cent of homicides while female victims are more likely to be killed by stabbing (33 per cent), assault and other means (15 per cent), or by multiple means of inflicting injuries (15 per cent). With respect to the association between weapon and homicide circumstances, firearms are used more frequently in male homicides occurring during drug deals (82 per cent) and robberies (76 per cent) than in those during disputes (44 per cent) where other means are used. In terms of the types of firearms, the .38 caliber handgun was most frequently used (56 per cent of cases). In addition the 9 millimeter bullets were found in 2 per cent of cases, while the caliber of bullets could not be determined in 8 per cent of cases.

Most homicides (61 per cent) took place between 8 pm and 8 am and the fewest number (13 per cent) of homicides took place between 8 am and 2 pm. They were fairly evenly distributed across the day of the week as well as the time of year. In additional analyses not shown, time of a homicide was not related to the age, sex, or race of the victim.

Alcohol and drugs were frequently found in the blood and other tissues of homicide victims. Brain alcohol levels of .01 per cent or greater were found in 38 per cent of male and 36 per cent of female victims. An additional 8 per cent of male and 4 per cent of female victims had no alcohol but died longer than one hour after injury, thus they may have metabolized alcohol in the interval between the injury and death since alcohol is metabolized by the body generally at the rate of 0.015 per cent per hour.[17]

Almost 30 per cent of male and 20 per cent of female victims had one or more drugs in their bodies at the time of death. Morphine, a metabolite of heroin, and other opioids were the most common types of drugs, found in 11 per cent of victims. Cocaine was found in 3 per cent and sedatives and

minor tranquilizers in 4 per cent of victims. Other drugs such as phencyclidine (0.8 per cent), propoxyphene (0.6 per cent), and quinine (1.9 per cent) were found less frequently. Usually only one type of drug was found, but approximately 7 per cent of victims had two, even three, combinations of drugs, usually opioids.

Victims dying from disputes were more likely than victims of other types of homicides to have alcohol, usually without drugs, in their blood, while victims of drug-related homicides were more likely to have only drugs or neither drugs nor alcohol, and victims of robberies and other crimes were more likely to have neither drugs nor alcohol in their blood at the time of death (data available on request to authors).

### Discussion

Although the overall homicide rate for 1981 for the New York City area including all five boroughs was 25.8/100,000, which ranked it sixth among large cities in the United States, the homicide rate for Manhattan (40.5) was almost equal to that of the Detroit area which during 1981 ranked as first in terms of its total homicide rate. This study has found that some trends reported in previous local studies continue to be true—namely, that men, the young, and the non-White population are at greater risk of being homicide victims.[6-14]

For men, the percentage of primary homicides (those which were not related to another crime) in our study was overall much lower than that reported in the United States from 1976–79[15] although the proportion for female victims (66 per cent) was similar. In Manhattan and probably in other large metropolitan areas, secondary homicides (those related to other crimes) form a large proportion of homicides. In fact, the proportion of secondary homicides may be even greater than we have reported since homicides where the perpetrator or circumstances were unknown would be more likely to be of that type.

Unlike previous studies, we have differentiated criminally related secondary homicides into those which were drug-related from those which were related to robberies and other criminal activities and compared these to primary homicides. The three types of homicides clearly differed in terms of victims and characteristics. Victims of disputes were more likely killed by family members and by stabbing, assault, and means other than firearms and were more likely to have positive alcohol levels with or without concurrent blood levels of abused drugs. One may speculate that with alcohol there is decreased inhibition in both the victim and the perpetrator who may be drinking. As a result, the victim may become verbally or physically abusive and provocative. Thus, the breakdown in close interpersonal relationships manifests itself in lethal action rather than verbal or other means of resolution. Surprisingly, despite news media publicity, homicides related to sexual assaults were infrequent. This is in keeping with the findings of Swigert who found that sexual encounters were rarely associated with homicide and in cases where they were these encounters were between consenting adults.[18]

Victims of homicides related to drugs were more likely to be killed by friends or acquaintances, with firearms. Drugs, especially narcotics, rather than alcohol, were found in the blood of these victims. Although the methodology and focus of our study is not comparable to that of Wetli,[19] we did not find methaqualone to be associated with homicide in Manhattan as he did in Florida. Rather than pharmacological effects resulting in aggression and homicide, the effects of

drugs are probably indirect and related to drug-seeking activities. The fact that over one-third of male homicide victims in Manhattan in 1981 died in drug-related homicides attests to the magnitude and the impact of the drug problem, particularly with narcotics. Although Blacks and Latinos were more likely than other racial groups to die in drug-related homicides, a substantial number of Whites died in drug-related homicides as well.

The third type of homicide which was related to other criminal activities, predominantly robbery, comprised approximately one-fourth of homicides for men and women. Victims were more likely killed by strangers with firearms and were more likely to have neither drug nor alcohol levels or to have low alcohol levels at the time of death. This type of homicide is the most feared by the public since it is usually independent of the role of the victim and is more random except for the victim's presence in a particular geographic area.

Although firearms were used frequently in all types of homicide, they were more likely used in both types of criminally related homicides. This is in disagreement with national statistics cited by Jason.[15] In large cities, a firearm is an indispensable part of illicit business. In homicides resulting from disputes, decreased availability of guns through gun control legislation may prevent an assault from developing into homicide. However, whether such legislation would deter criminal homicides involving guns is unclear.

There are contradictory findings in the research literature as to whether the high homicide rate in Blacks represents socioeconomic or cultural factors. An Atlanta study found that Blacks were no more likely than Whites to commit domestic homicides when rates of household crowding as an index of socioeconomic status were considered.[20] Most studies have used large geographic areas as units of analysis in relation to homicide rates and, thus, the effect of sociodemographic factors may be obscured or distorted. Perhaps a more focused approach using small geographic units of analysis would be more appropriate.[21,22]

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