

Murder Rates in New Orleans, La, 2004–2006

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Murder rates for New Orleans, La, during 2005 and 2006 were calculated with the best available population trajectories for these 2 atypical years. These calculations showed that the murder rate increased substantially during this period compared with 2004. The increase in 2005 from 2004 was 14%. The best estimate of the increase in the murder rate in 2006 compared with 2004 was 69%; the large increase in 2006 began during the second quarter of that year. (*Am J Public Health*. 2007;97:1614–1616. doi:10.2105/AJPH.2007.110445)

METHODS

A *rate* is the number of events (homicides, or “murders,” in this case) divided by exposure (i.e., a summation of person-years lived during the period of interest in the place of interest, New Orleans in this case). During the last full calendar year before Hurricane Katrina—2004—exposure was properly estimated by the city’s population at midyear: 462 269.¹ Given the 264 murders that occurred in New Orleans, La, during 2004, the murder rate was easily and properly estimated as 57.1 per 100 000 person-years.

New Orleans was essentially emptied by Hurricane Katrina at the end of August 2005. A substantial degree of repopulation began late in 2005 and occurred throughout 2006. The City of New Orleans Emergency Operations Center estimated the city’s overnight population at 134 000 in December 2005.² A second estimate by Rand Corp was 91 000 at that time.³ The difference was likely because the Emergency Operations Center conducted its surveys over the weekends, when a surge of people would return to New Orleans to deal with the damage. The Rand Corp estimate was likely a closer approximation of the usual population.

Levels of population and exposure for New Orleans during 2005 are illustrated graphically in Figure 1. Each member of the city’s population during 2005 contributed about 8 person-months of exposure because most were there until the evacuation over the weekend before August 29, 2005. Estimates of population size soon after that date were based in part on a small survey conducted by the New Orleans Emergency Operations Center group during late October 2005, a survey from which they calculated the city’s population to be approximately 105 000 (Gregory Stone, MS, Louisiana Public Health Inst, written communication, January 8, 2007). Given the issues regarding weekend sampling discussed earlier, I estimated the usual population at this time to be about 68% (91 000 of 134 000) of this, or 71 000, and assumed an average date of arrival of those returning to the city of October 15, 2005. Each of the approximately 71 000 people who returned early to the unflooded sections contributed an average of 2.5 person-months during the last part of 2005. An additional 20 000 residents arriving late in the year contributed an average 1.5 person-months each. These total to 321 351 person-years of exposure in New Orleans during 2005, and the 210 reported murders equal to a rate of 65.3 per 100 000 person-years, a 14% increase from 2004.

For 2006, there are disagreements regarding repopulation trajectories in New Orleans and in other Katrina-affected areas. The recently released census estimate of 223 000 for New Orleans for July 2006 is very much at odds with the existing set of systematic and well-documented estimates, which indicate a midyear population of about 170 000 to 180 000 and approximately 200 000 near the end of the year. These systematic population estimates for the second half of 2006 include an estimate for September by Rand Corp,³ estimates for October and November by the Louisiana Recovery Authority,^{4,5} and an analysis of postal service change-of-address requests for late June.⁶

Less consensus is found among population estimates for the early part of the year, and these differences have implications for the murder rate. The 2 basic scenarios of repopulation during 2006 are (1) a more optimistic one based on early estimates by the

Emergency Operations Center and (2) a more conservative one (the best estimate) based on early estimates by Rand Corp (Figure 2). The conservative trajectory inspires confidence because of the close correspondence between Rand Corp’s subsequent projection of 198 000 for September 2006 and the Louisiana Recovery Authority’s estimate of 200 000 for November 2006. The Emergency Operations Center–based estimate provides a very useful basis for an upper-bound figure for exposure and a reasonable lower-bound figure for the 2006 murder rate.

RESULTS

When the best-estimate figures were used, the 162 murders in 2006 yielded a rate of 96.6 per 100 000 person-years, a 69% increase over 2004 and a 48% increase over 2005 (Table 1). When the more optimistic figures were used, the murder rate in New Orleans during 2006 was 84.8 per 100 000 person-years, a 49% increase over 2004 and a 30% increase over 2005. Simply dividing the number of murders by the new midyear census estimate yielded a murder rate of 72.6 per 100 000 person-years, an estimate that severely understates those calculated with the full set of systematic and well-documented population estimates.

Murder Rates by Quarter, 2006 versus 2005

When the best-estimate population projection was used to calculate exposure, the annualized murder rates for New Orleans for the 4 quarters of 2006 were 55.3, 100.6, 110.9, and 105.1, respectively, per 100 000 person-years of exposure. Comparison by quarters for 2005 and 2006 found little difference between the first quarters of the 2 years. The second and third quarters of 2006, however, showed increases of 66% and 24%, respectively, from 2005. The fourth quarter murder rate in 2006 was more than double the rate in 2005, when only 8 murders occurred.

New Orleans Versus National Urban Murder Rates, 2004 to 2006

The murder rate for other US cities of similar size was 13.2 per 100 000 person-years during 2004; the New Orleans rate of 57.1 was more than 4 times as high as the national

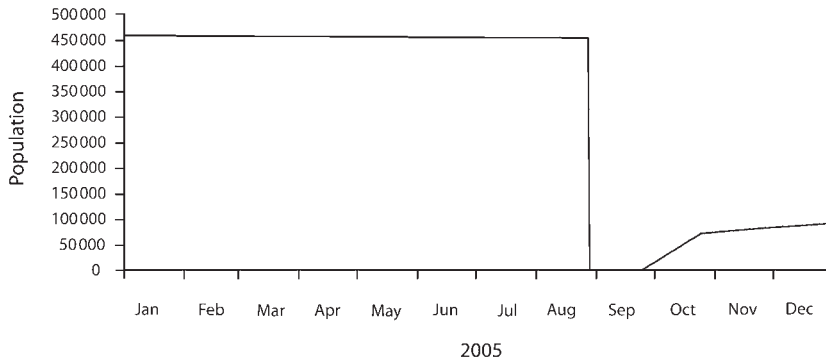
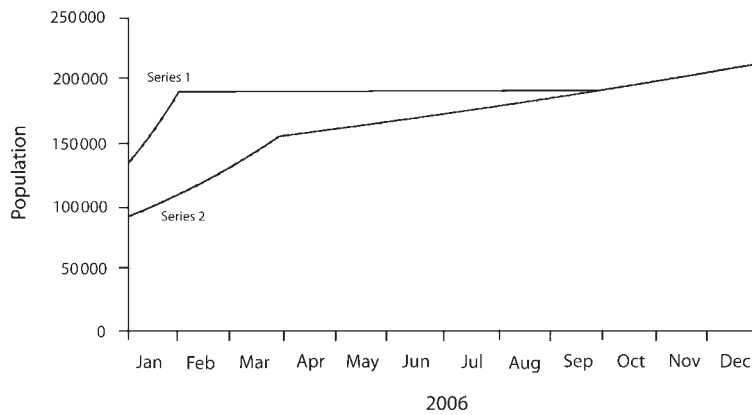


FIGURE 1—Population of New Orleans, La, in 2005.



Note. Series 1 was based on “best-estimate” trajectory, and series 2 was based on “optimistic” trajectory. See “Methods” section for details. Both trajectories are identical from October 1, 2006, to December 31, 2006.

FIGURE 2—Population estimates of New Orleans, La, in 2006.

TABLE 1—Murder Rates for New Orleans, La: 2004–2006

Year	Source of Population Estimates	No. of Homicides	Person-Years of Exposure	Homicide Rate per 100 000 Person-Years	Relative to 2004 Level, %	Relative to 2005 Level, %
2004	Census	264	462 269	57.1
2005	US Census/Emergency Operations Center/Rand Corp	210	321 351	65.3	114	...
2006	Emergency Operations Center/Louisiana Recovery Authority ^a	162	190 971	84.8	149	130
2006	Rand Corp/Louisiana Recovery Authority ^b	162	167 709	96.6	169	148

Note. The 2 basic scenarios of repopulation during 2006 are (1) a more optimistic one based on early estimates by the Emergency Operations Center and (2) a more conservative one (the best estimate) based on early estimates by Rand Corp. The conservative trajectory inspires confidence because of the close correspondence between Rand Corp’s subsequent projection of 198 000 for September 2006 and the Louisiana Recovery Authority’s estimate of 200 000 for November 2006. The Emergency Operations Center–based estimate provides a very useful basis for an upper-bound figure for exposure and a reasonable lower-bound figure for the 2006 murder rate.

^aOptimistic-estimate population trajectory.

^bBest-estimate population trajectory.

average for comparable cities.⁷ The New Orleans murder rate (65.3) was more than 5 times as high as the comparable national rate⁸ during 2005. The preliminary national rate for 2006 imply that the New Orleans rate (96.6) was 11.9 times the national rate⁹ for that year.

DISCUSSION

The murder rate in New Orleans for 2006 increased substantially over both 2004 and 2005. The degree of increase in 2006 depends somewhat on which population projection was used to calculate exposure, but even the most optimistic population estimates showed a substantial rise in the murder rate. The best-estimate trajectory implied a murder rate more than two thirds higher in 2006 than in 2004 and nearly 50% higher than it was in 2005. Compared with 2005, quarterly rates were substantially elevated during the second, third, and fourth quarters of 2006. Compared with rates in cities of comparable size, murder rates in New Orleans have been substantially higher since at least 2004, and the disparity has been worsening since then. ■

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This brief was accepted April 20, 2007.

Acknowledgments

Helpful comments by Hongyun Fu, John Knodel, Dominique Meekers, Narayan Sastry, and Greg Stone are gratefully acknowledged.

Human Participant Protection

No institutional review board approval was required for this study.

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