

The Safety Gap: Neighborhood Homicide Inequality in Chicago, 1992–2025

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ABSTRACT

Importance. The US recently experienced unprecedented declines in homicide, yet gains may not be shared equitably across neighborhoods: relative inequality in neighborhood homicide rates can widen even as citywide rates fall, with serious public health consequences.

Objective. To examine changes in neighborhood homicide inequality in Chicago and characterize spatial persistence of high- and low-homicide neighborhoods from 1992 through 2025, spanning the crime decline, the COVID-19 homicide surge, and the subsequent decrease

Design, Setting, and Participants. Descriptive time-series analysis of neighborhood-level homicide rates across Chicago's 342 neighborhood clusters from 1992 through 2025. Geocoded homicide records were obtained from the Chicago Police Department. Population denominators were derived from decennial censuses and the American Community Survey.

Exposures. Calendar year and neighborhood homicide rate percentile, operationalized as annual city-neighborhood panels derived from three-year population-adjusted homicide rates.

Main Outcomes and Measures. Absolute and relative measures of neighborhood homicide inequality, including: ratios of homicide rates between neighborhoods in the top 10th percentile (N=35) and both the bottom 30th percentile (N=103) and the rest of the city (N=307); the Gini index of homicide rate distribution; percentile-stratified homicide rate trends; and maps of neighborhood membership in the highest and lowest homicide rate groups in 2000 and 2025.

Results. Chicago's citywide homicide rate reached a study-period low of 15.1 per 100,000 in 2025. Despite this improvement, relative inequality in neighborhood homicide rates increased markedly, particularly from 2021 to 2025. The ratio of homicide rates between neighborhoods in the top 10th percentile and those in the bottom 30th percentile increased 143%, from 1.58 in 2021 to 3.84 in 2025, the highest value observed in the study period. Neighborhoods on Chicago's west and south sides consistently comprised the highest homicide areas in both 2000 and 2025.

Conclusions and Relevance. Despite a multi-decade homicide low in 2025, Chicago's decline was concentrated in already-safe neighborhoods, producing the study period's highest level of neighborhood homicide inequality. This widening safety gap underscores the need for targeted public health and violence prevention strategies addressing the structural conditions sustaining homicide concentration in the city's most disadvantaged communities.

KEY POINTS

Question. Has relative inequality in neighborhood homicide rates in Chicago changed over the period from 1992 through 2025 relative to the absolute gains in homicide reduction?

Findings. In this repeated cross-sectional time-series study of 342 Chicago neighborhoods, citywide homicide rates reached their lowest point in 2025, yet the ratio of homicide rates between the city's most and least violent neighborhoods reached a study-period peak, rising 143% between 2021 and 2025. The spatial distribution of high-homicide neighborhoods remained concentrated on Chicago's west and south sides across the full study period.

Meaning. Aggregate declines in urban homicide can mask widening relative inequality across neighborhoods. Reducing the safety gap requires targeted strategies that address the structural disadvantages sustaining violence in the city's highest homicide communities.

INTRODUCTION

In 2025, the United States experienced what may be the largest single-year decline in homicide in the nation's recorded history¹. Coming on the heels of a COVID-era surge that drove homicide rates not seen since the early 1990s, this reversal represents a remarkable and consequential shift in public safety. The magnitude of the decline carries significant public health implications. For example, homicide is a leading contributor to racial disparities in life expectancy, and reductions of this scale could narrow longstanding gaps between groups that have historically borne a disproportionate burden of violent death²⁻⁴. Similarly, exposure to violence is associated with a lower quality of life, and psychiatric and physiological morbidity⁵⁻⁷.

Yet aggregate declines in homicide rates may obscure substantial geographic disparities across urban neighborhoods. That is, overall homicide reductions do not guarantee that the most vulnerable communities benefit proportionately, with aggregate declines coexisting with widening gaps between the least and most dangerous neighborhoods. We define the relative disparity in homicide rates between a city's safest and most dangerous neighborhoods as the "safety gap." Prior work examining Chicago found that even as nearly all neighborhoods experienced absolute declines in homicide rates between 1990 and 2010, relative inequality increased by more than 10%, driven by faster improvement in the city's safest communities⁸. The COVID-era surge and subsequent historic decline offer a new stress test of this dynamic. This study extends this line of prior research through 2025, a year in which Chicago reached its lowest homicide rate in four decades, to examine whether the safety gap narrowed alongside the citywide decline or widened further.

METHODS

Neighborhoods in Chicago were operationalized as "neighborhood clusters" (N = 342), developed by the Project on Human Development in Chicago Neighborhoods to aggregate census tracts into socially meaningful geographies⁹. Yearly geocoded homicides were obtained from the Chicago Police Department from 1990 through 2025 and aggregated to neighborhoods. Homicide counts were transformed to rates per 100,000 neighborhood population. Population estimates were derived from decennial censuses for 1990, 2000, 2010, and 2020 at the block level, and from 2020–2024 American Community Survey 5-year estimates at the block group level for 2022. Using these as anchor points, yearly neighborhood population denominators were generated for the full time series using spatial interpolation and log-linear temporal interpolation (1990–2022) and extrapolation (2023–2025). To smooth homicide rates, population-adjusted three-year averages were computed beginning in 1992, encompassing the current year and the two prior years.

Analyses estimated inequality in neighborhood homicide rates across time. We estimated the safety gap by computing ratios of homicide rates that compared neighborhoods in the 90th percentile and above (N = 35) with two comparison groups: (1) neighborhoods in the bottom 30th percentile (N = 103) and (2) all neighborhoods below the 90th percentile ("rest of the city"; N = 307). We additionally computed the Gini index as a measure of relative inequality in the homicide rate distribution across all neighborhoods, ranging from zero (perfect equality) to one (maximum inequality)^{10,11}. We further estimated temporal trends by examining percentile-stratified homicide rate

variation across the study period. Finally, we mapped the spatial distribution of neighborhoods in the highest (90th percentile and above) and lowest (30th percentile and below) homicide rate groups in 2000 and 2025. Only publicly available administrative data were used; institutional review board review was not required.

RESULTS

During the study period, Chicago's citywide homicide rate generally declined from the early 1990s through the late 2000s, peaking in 1996 at 26.1 per 100,000 (Figure 1A). From the late 2000s through the early 2020s, rates increased, particularly in the latter part of the 2010s. A post-COVID local peak occurred in 2022 (25.3 per 100,000); rates subsequently declined each year through 2025, when the citywide homicide rate reached 15.1 per 100,000—the lowest annual rate in the study period and a three-year reduction of 40.4%.

Despite these recent improvements, relative inequality in neighborhood homicide rates showed a generally increasing trend across the study period, with marked escalation in recent years (Figure 1B). The ratio of homicide rates between neighborhoods in the top 90th percentile and those in the bottom 30th percentile increased 143% between 2021 (1.58) and 2025 (3.84), the highest value observed in the study period. Although local maxima were observed in 2011 (2.54) and 2018 (2.40), these were substantially lower than the 2025 peak. Ratios comparing top-decile neighborhoods with the rest of the city showed a similar upward trend. The Gini index and all ratio measures tended towards greater increases in the latter portion of the study period.

Homicide rates remained strongly stratified across neighborhood percentiles throughout the study period, with widening separation in recent years (Figure 2). Spatial analysis revealed that neighborhoods on Chicago's west and south sides consistently comprised the highest-homicide areas in both 2000 and 2025 (Figure 3). Across the full study period, 3.5% (12/342) of neighborhoods remained above the 90th percentile in both 2000 and 2025, and 18.7% (64/342) remained in the bottom 30th percentile in both years. The majority of neighborhoods (83.0%; 284/342) were not above the 90th percentile in either year, and 58.5% (200/342) were not below the 30th percentile in either year.

DISCUSSION

In 2025, Chicago reached its lowest homicide rate in four decades. Yet relative inequality in homicide rates across its neighborhoods simultaneously reached the highest level observed in our 33-year study period. The safety gap, as measured by the ratio of homicide rates between the city's most and least dangerous neighborhoods, more than doubled between 2021 and 2025. This paradox—historic safety gains coexisting with historic inequality—is the central finding of this study.

The extent to which these findings hold across other American contexts remains an open question. But Chicago's homicide trends closely mirror the national pattern in which homicide rates surged beginning in 2020 and then declined precipitously¹². In Chicago, this pattern temporarily compressed the safety gap as violence spread beyond historically high-crime neighborhoods. The subsequent decline, however, did not narrow

inequality—it widened it. The city’s safest neighborhoods improved at a faster rate than its most dangerous ones, driving relative inequality upward even as absolute homicide counts fell everywhere.

The spatial persistence of high-homicide neighborhoods underscores that the safety gap is not merely a statistical artifact, but it is a geographic reality rooted in structural disadvantage. The same communities that bore the heaviest burden of homicide in 2000 continued to do so in 2025, reflecting decades of concentrated poverty, racial segregation, and disinvestment that no citywide crime decline has yet overcome.

Reducing the safety gap will require targeted public health and violence prevention strategies directed at these communities specifically, rather than focusing on citywide improvements alone.

This study has limitations. Findings are based on a single city, and whether the safety gap has widened similarly in other US cities during this period remains unknown.

Population denominators for 2023 through 2025 rely on extrapolation, introducing uncertainty in rate estimates for the most recent years. These limitations notwithstanding, Chicago offers an unusually long, granular, and well-documented record of neighborhood-level homicide—and its patterns have historically anticipated broader national trends. Aggregate measures of public safety, however encouraging, can mask the persistence and deepening of inequality within cities. The safety gap demands its own accounting.

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FIGURES



Figure 1. Trends in neighborhood homicide rates and inequality in Chicago, 1992–2025. (A) Citywide homicide rate per 100,000 population. (B) Relative inequality measures indexed to 1992 values: ratio of homicide rates between neighborhoods in the top 10th percentile and the bottom 30th percentile (90/30 ratio); ratio of top 10th percentile to the rest of the city (90/rest ratio); and Gini index.

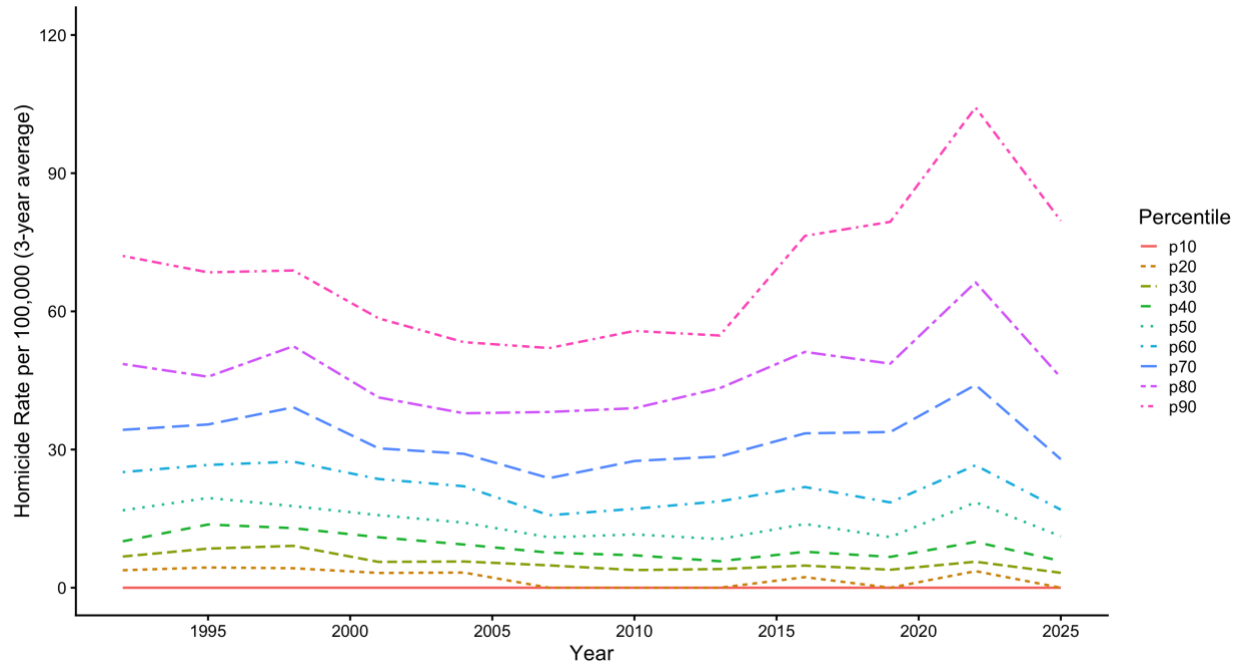


Figure 2. Three-year average homicide rates per 100,000 residents by neighborhood percentile, 1992–2025.

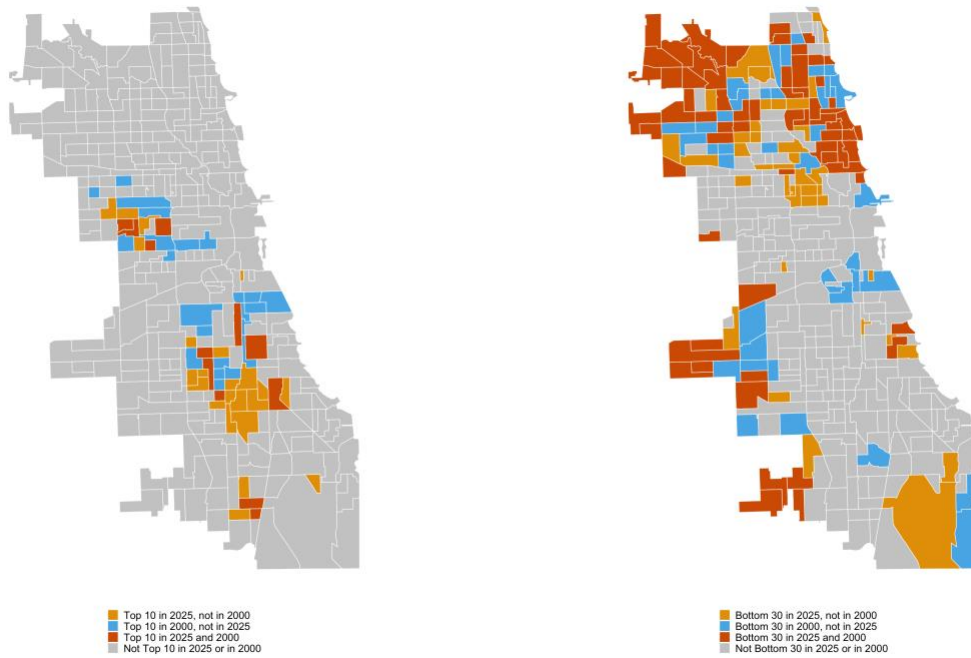


Figure 3. Neighborhoods in the top 10th percentile and bottom 30th percentile of homicide rates, 2000 and 2025. Neighborhoods on Chicago's west and south sides are consistently represented among the highest-homicide areas across both time points.