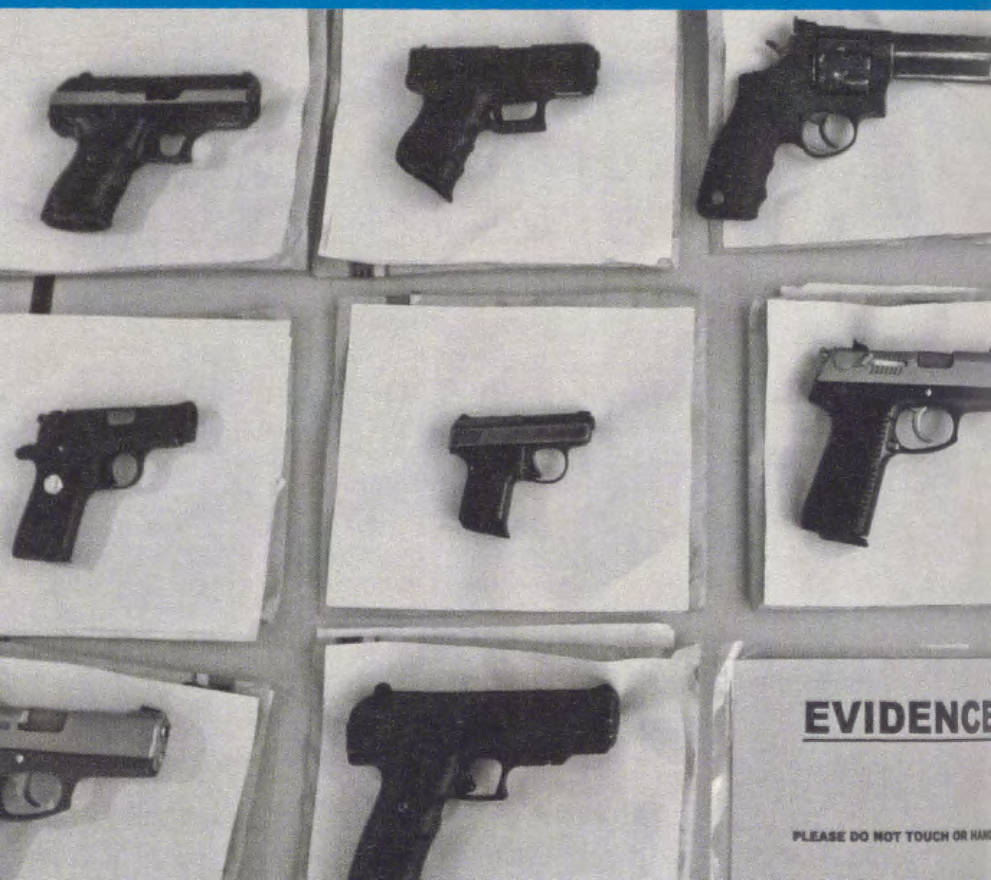


# A Missed Opportunity to Improve Public Safety



## The Case for Improved Sanctioning of Unlawful Use of Weapon Arrests in Chicago

BY JENNIFER MCPHILLIPS

### Abstract

Gun violence poses an enormous problem in Chicago and other large urban areas in the United States, but little is known in the policy or criminology communities about how to deter illegal gun possession and gun violence. This study evaluates the impact of court dispositions on recidivism for individuals whose first contact with the Chicago Police Department was an Unlawful Use of Weapon arrest. I found that the criminal-justice system effectively differentiates between dangerous criminals and low-risk offenders when meting out dispositions, yet despite this accuracy, individuals who do receive a punitive disposition (probation or a jail sentence) are far more likely to reoffend. These individuals receive ineffective sentences and consequently receive insufficient treatment to deter them from future offending. Consequently, I argue that the county maintain judicial discretion for illegal weapon-possession cases but establish consistent guidelines for punitive sentencing and introduce innovative approaches to deter recidivism.

## Introduction

In many cases in Chicago an Unlawful Use of a Weapon (UW) offense can be an individual's first adult contact with the criminal-justice system. However, due to limited public financial resources and time constraints in the criminal-justice system, illegal gun carrying often does not result in effective sanctions in many jurisdictions, even places with tough anti-gun laws like Chicago. A UW charge is a felony crime according to Illinois statute, yet UW charges often go unprosecuted or, at best, result in probation. It remains unknown, however, how the leniency or severity of the court disposition affects future criminal involvement. Considering that many UW charges are dropped, is the criminal-justice system missing an opportunity to target at-risk individuals who are likely to reoffend? Or, is the judicial system in Chicago effectively identifying individuals with strong criminal proclivities and only meting out sentences to individuals who present a high risk to the community, consequently saving criminal-justice resources for higher priority cases?

Recent studies in behavioral economics and crime policy suggest that swift, certain, and salient sanctions may effectively deter socially harmful behavior. These studies led me to hypothesize that stricter, mandatory sentences for UW offenses would help to lower rates of recidivism, sending the message that the city takes an aggressive stance on reducing unlawful gun possession. Many jurisdictions, including New York City, are adopting mandatory minimum sentences for certain UW offenses; Chicago is currently considering a similar proposal for Aggravated Unlawful Use of Weapon<sup>1</sup> offenses. These regulations establish a clear sentencing framework for unlawful gun possession but impose a burden and cost on the criminal-justice system as they apply to all individuals regardless of the context of the arrest.

I developed a new data set using Chicago Police Department administrative arrest records and publicly available court data to conduct a

1. A UW charge becomes "aggravated" based on several factors, including type (firearm, stun gun, or taser), intent (firearm is loaded or uncased; violence is threatened or used), lack of registration, the person's conviction record, or drugs or gang activity (Illinois General Assembly, 2015).

prospective analysis of criminal activity. This analysis allowed me to understand the relationship between UUW charges, their dispositions, and later criminal offenses. I limited my sample population to individuals whose first adult arrest in Chicago was a UUW offense in 2007, who were adults at the time of their arrest, and who received an Illinois-statute UUW charge as the primary charge on their arrest. These parameters identified a very specific study population, and limited factors that could confound the results. I used logistic and linear regressions to evaluate the impact of the court dispositions on the likelihood of committing subsequent crimes.

My prospective analysis revealed a surprising picture: not all individuals convicted of illegal weapons possession subsequently reoffend, and the judicial system effectively differentiates between dangerous and low-risk offenders. However, the criminal-justice system's subsequent treatment of the at-risk group does little to deter future criminal involvement due to light sentencing and poor oversight by the probation and corrections system. In this paper I will first present a comprehensive review of prior analysis and research within the field, then explain my methodology and results, and finally discuss several policy recommendations aimed at assisting the City of Chicago with more effectively deterring recidivism among this population.

## Background

Violence claimed the lives of 504 people in Chicago in 2012, and more than 86 percent of murder victims in the city are killed by gunfire (Ander & Daley, 2013). Young blacks in the city's economically distressed and racially segregated South and West sides are particularly vulnerable and face disproportionate risks of being victims or perpetrators of gun violence. Blacks make up about one-third of Chicago residents, but around three-quarters of both homicide victims and offenders. Nationwide homicide is by far the leading cause of death for blacks age 15–24; it is responsible for more deaths than the nine other leading causes combined (Ander, Cook, Ludwig, & Pollock, 2009).

In an effort to reduce gun violence, in 1968 the City Council

ordered the registration of all firearms, and in 1982 the council banned the sale, possession, and registration of handguns. *District of Columbia v. Heller* (2008) struck down the district's handgun ban, and the Supreme Court ruled in *McDonald v. Chicago* (2010) that the city's ban was unconstitutional (Greenhouse, 2008). Chicago subsequently passed a series of ordinances limiting handgun possession to individuals who passed a firearms' training course, obtained a firearm permit from the police, and registered the firearm (Byrne & Dardick, 2010).

Gun violence drains resources from other pressing public-policy needs, such as education, transportation, and economic development and drives out taxpaying residents and businesses. Childhood exposure to violence is a risk factor for depression, delinquency, school failure, and risky sexual behavior (Bell & Jenkins, 1993). The total social costs of gun violence in Chicago may be on the order of \$2.5 billion annually, about \$2,500 per household per year (Ander et al., 2009). The costs of gun violence extend beyond victims to threaten the city's long-term future. Levitt and Cullen found that each violent crime (such as assault or robbery) in a city reduces a city's population on average by one resident, by driving a person to move out or deterring a person from moving in. Each homicide reduces a city's population by seventy residents (1999). Ludwig and Cook estimate that if Chicago's homicide rate was similar to New York City's, which is about one-third less (due primarily to fewer gun homicides), then Chicago's population would have remained constant or even grown slightly over the past decade, rather than declined by around two hundred thousand people (2001). Put differently, guns contribute to the exodus of residents and businesses, undermining the city's tax base and economic vitality. Levels of violent crime in the United States are similar to other developed nations, but the United States has substantially higher rate of homicides due to the criminal use of guns. Gun assaults are five times more lethal than criminal attacks involving knives (Zimring, 1968). Even if the overall volume of interpersonal violence were unchanged, reducing gun involvement would greatly reduce social costs, such as the medical costs of treating gunshot wounds or the criminal-justice costs of prosecution and incarceration.

According to the National Academy of Sciences there is remarkably little research about how sentencing policies affect crime or reduce urban gun violence (Wellford, Pepper, & Petrie, 2004). Compared to other areas of social science and public health, there has been limited progress sustaining reductions in gun violence over the past fifty years. Between 1950 and 2005 the infant mortality rate declined by over two-thirds, the death rates from heart disease and stroke each declined by three-quarters, and the rate of motor vehicle fatalities per mile driven declined by nearly four-fifths, yet the rate at which Americans are murdered each year was slightly higher in 2005 than in 1950 (Fig. 1).

Recent mass homicides (Newtown, Connecticut, Aurora, Colorado, Tucson, Arizona, and Oak Creek, Wisconsin) have drawn attention to the need to prevent gun violence. The murder of Hadiya Pendleton in Chicago corroborated the sense that the city does not adequately punish illegal gun-possession crimes. One of the men charged with her murder was on felony probation for a prior illegal gun-possession charge. Garry McCarthy, the police superintendent, argued that more stringent gun laws would have prevented the Pendleton and other murders, because the offenders would have been incarcerated (2013). On February 11, 2013, the mayor, state's attorney, and police superintendent proposed

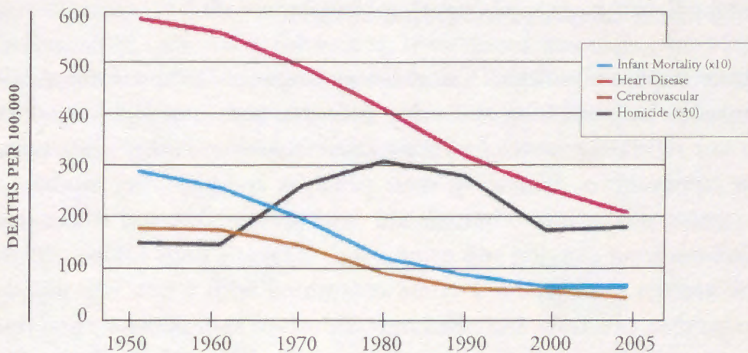


Figure 1. Trends in Death Rates for Selected Causes, United States, 1950–2005. National Center for Health Statistics  
(Ander et al., 2009)

statewide gun-safety legislation that would increase the minimum sentencing for the most serious gun crimes by adding Aggravated Unlawful Use of Weapons to the list of “Truth in Sentencing” (TIS) crimes (Mayor’s Press Office, 2013). TIS (730 ILCS 5/3-6-3), which passed in Illinois in the 1990s, identifies specific crimes for which convicted individuals must serve a mandatory-minimum percentage of the sentence. Previously inmates could receive credit for good behavior and were released, on average, after serving 50 percent of their sentence. TIS increased the sentence served to 100 percent for first-degree murder and 85 percent for violent crimes (Illinois Department of Corrections, n. d.). The proposed legislation would

- increase the penalty for felons who carry guns from two to three years, with subsequent offenses requiring a minimum of five years;
- increase the minimum sentence from one to three years for Aggravated UUW when the offender has a loaded gun and does not have a Federal Owner Identification (FOID) card; and
- add these gun crimes to the crimes subject to TIS guidelines, requiring that offenders serve at least 85 percent of their sentence (Mayor’s Press Office, 2013).

Mayor Emanuel noted: “Criminals continue to escape with minor sentences for possessing and using firearms, and these light penalties do not reflect the severity of their crimes nor the damage they cause our communities. Increasing these penalties and requiring minimum sentences will ensure criminals are held accountable and discourage criminals from carrying and using guns” (Mayor’s Press Office, 2013). The average sentence for a crime committed with a gun was slightly longer than two years, but offenders only served approximately one year in prison. This analysis also cites the example of New York where, after implementing a similar mandatory-minimum law, offenders began serving their full sentences while the murder rate and prison population fell by double digits (Mayor’s Press Office, 2013).

These changes would *only* affect an individual who either discharges a firearm (i.e., fired a shot in any direction) or had a prior felony charge (Legal Information Institute, n. d). Minimum sentences would not apply to less serious illegal gun-possession cases, except to individuals with a criminal history who had already imposed financial and social costs on the city and their neighborhoods. The city may be overlooking an opportunity to prevent crime by increasing sentencing for individuals at their initial point of contact with the criminal justice system—changing sentences for less severe crimes could help to incapacitate and deter violent criminal activity at the level where the proposed laws would not intervene. In the current sentencing structure many less serious crimes do not result in probation or incarceration, because the Circuit Court of Cook County gives higher priority to cases of large-volume drug sales and aggravated assaults. Although UYW charges are often felonies and may merit a harsh sentence, many defendants argue successfully that the police had no probable cause for a stop and search, and judges and prosecutors dismiss the charges. Cook County's leniency may mean that individuals have no incentive or motivation to refrain from carrying illegal weapons.

Law enforcement officials in Chicago (and other cities) might address their gun-violence problem and deter future, more violent criminal activity if they employed legal regulations to address the earlier indicators of criminal involvement. If increased sentencing for an individual's first UYW charge deterred future illegal weapons possession, Chicago may experience an overall reduction in violent gun crime and subsequent reduction in associated social and private costs.



## Literature Review

### Nationwide Gun Violence Trends

Interpersonal gun violence is concentrated in urban areas and committed primarily by adolescent and young-adult males who are blacks or Hispanic (Cooper & Smith, 2011). Consequently, gun crime is not randomly distributed across the populations of the United States, and the private- and social-cost burden is not equally shared. From 1980 to 2008 males constituted 82.6 percent of all victims in firearm-related homicides (excluding gun suicides) and 76.8 percent of homicides overall. In 2008 the male homicide-victimization rate was 8.5 deaths per 100,000 while the female rate was 2.3 deaths per 100,000 (Cooper & Smith, 2011). Furthermore, gun homicide and firearm-related violence and injury disproportionately affects young adults and adolescents. The rise of firearm-related homicide in the 1980s and its decline in the 1990s were largely due to the crack-cocaine epidemic, and these changes were primarily confined to adolescent and adult males (Fontanarosa & Wintemute, 2000). From 1980 to 2008 the most likely victims of homicides were young adults (age 18–24), and the majority were killed by firearms (Wellford et al., 2004). In 2008 the homicide-victimization rate for young adults was 13.4 homicides per 100,000; the rate for 25–34 year olds was 10.7 homicides per 100,000. In 2008 non-Hispanic blacks accounted for 12.6 percent of the population but 47.4 percent of all homicide victims. The 2002 firearm-related homicide-victimization rate was 16.64 per 100,000 for non-Hispanic blacks, 6.19 per 100,000 for Hispanics, 1.53 for non-Hispanic whites, and 2.60 for other races (Wellford et al., 2004).

Males are seven times more likely than females to commit a homicide. In 2008 the homicide rate was 11.3 male offenders per 100,000 and 1.6 female offenders per 100,000. The rate for blacks (24.7 per 100,000) was almost seven times higher than the rate for whites (3.4 per 100,000). (Cooper & Smith, 2011). Gun violence is largely concentrated among populations with prior criminal records, which indicates that past criminal behavior is predictive of future behavior (Cook & Ludwig, 2000). Victimization and offender trends have declined over the last

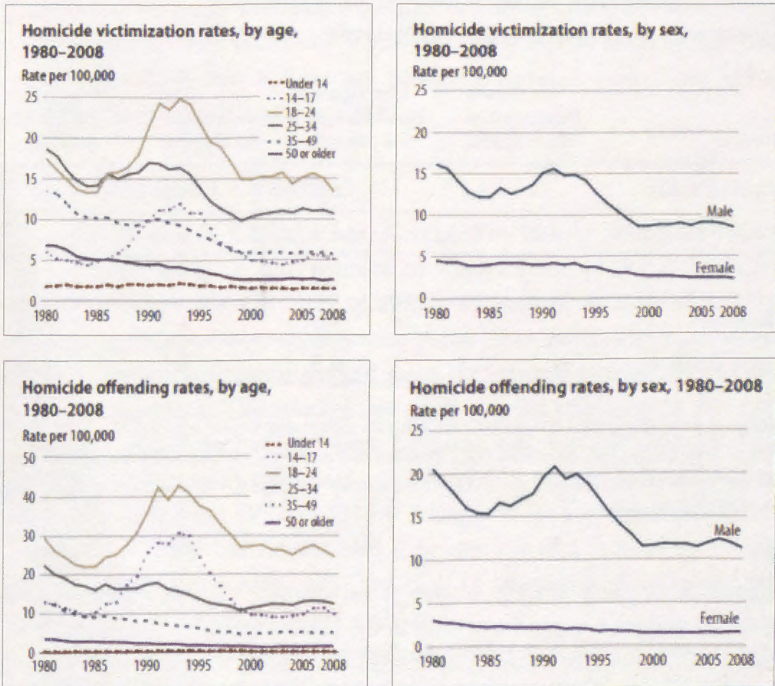


Figure 2. Homicide Victimization and Offending Rates, 1980–2008  
(Cooper & Smith, 2011)

thirty to forty years, though victimization of Hispanics and the overall amount of gun-related crime has increased (Fig. 2).

Interpersonal gun violence is much more prevalent in the United States than in other developed nations (Table 1). The US homicide rate for 2010 was 5.1 deaths per 100,000 people, versus an average of 1.1 in other developed nations (United Nations Office on Drugs and Crime, 2011).<sup>2</sup> Scholars argue that what distinguishes the United States from other prosperous nations is not the volume of violent crimes, but the high percentage of crimes (in particular, homicides) that involve guns

2. 2010 was the most recent year that full data were available.

**Table 1. Homicide Rates in the United States Compared to Other Developed Nations**

Nation	Firearm Homicide Rate (Per 100,000)	Non-Firearm Homicide Rate (Per 100,000)	Total Homicide Rate (Per 100,000)	Percentage of Households with Guns
United States	3.1	1.5	4.6	35
United Kingdom	0.1	1.3	1.4	7
Canada	0.6	1.2	1.8	24
Australia	0.1	1.3	1.4	15
New Zealand	0.2	0.9	1.1	23

*(Data is from the 2008 United Nations Office on Drugs and Crime report [UK, NZ]; 2007 Small Arms Study [UK, Australia, NZ]; Beattie 2009 and the 2010 Royal Canadian Mounted Police report [Canada]; and the 2009 University of Chicago Crime Lab report and 2006 NORC data [US]).*

(Cook & Ludwig, 2000). Although incomplete records make it more difficult to compare gun ownership in the United States<sup>3</sup> to other countries, the 2007 Small Arms Survey estimates that “with less than 5 percent of the world’s population, the United States is home to roughly 35–50 percent of the world’s civilian-owned guns, heavily skewing the global geography of firearms and any relative comparison” (Graduate Institute of International Studies, 2007).

## Instrumentality of Guns in Violence

The “instrumentality” hypothesis seeks to determine how important guns are as instruments of violence as compared to other weapons (Kleck & McElrath, 1991). Contrary to the notion that criminals will kill regardless of the weapons at their disposal, instrumentality indicates that the type of weapon determines the outcome of an encounter since

3. US gun-ownership records are incomplete, because sales in the secondary market and at gun shows are not tracked. Except in California, states do not require owners to report a lost or stolen gun.

guns can more easily intensify a conflict (Zimring 1972, 1968; Zimring & Hawkins, 1997). Guns are “equalizers” of violence since individuals who might have lost a fight are suddenly imbued with more lethal capabilities (Cook & Ludwig, 2000).

## Gun Crime in Chicago

The murder rate in Chicago has decreased by nearly 50 percent from 1991 to 2011 (Fig. 3), but murder by shooting has increased from 69 percent of all murders in 1991 to almost 86 percent in 2012 (Fig. 4), a 25 percent increase over twenty-one years. This increase in Chicago is part of a nationwide trend toward more widespread gun access and use of guns in conflict. The average age of all murder offenders in 2011 in Chicago was 27, though the most frequent ages were 17 and 18. The percentage of murder offenders age 17–25 (55 percent) has remained relatively stable from 1991 to 2011 (Chicago Police Department, 2011). To date, no study has determined if possession of a firearm by young adults (17–25 years old), who are new to the adult criminal-justice system, leads to future criminal activity.

Ander, Cook, Ludwig, and Pollock found that low-income, gang-involved young minority males are vastly overrepresented as both victims and perpetrators of gun violence, which is consistent with Bureau of Justice Statistics findings (Anders et al., 2009; Cooper & Smith, 2011).

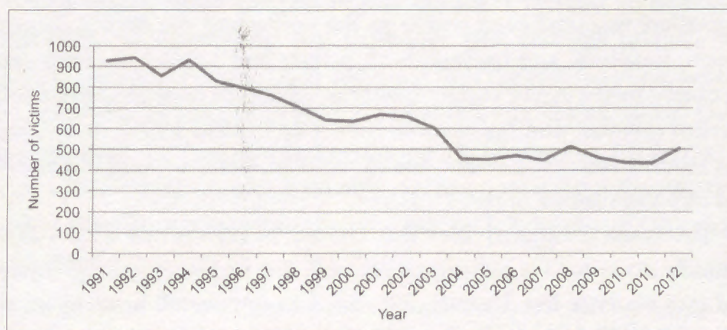


Figure 3. Homicide Victims in Chicago, 1991–2012  
(Chicago Police Department, 2011)

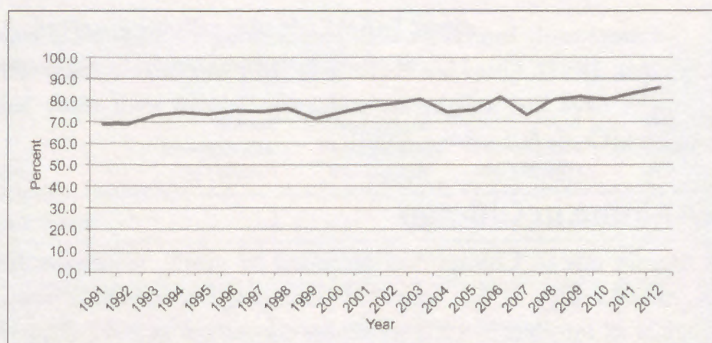


Figure 4: Percentage of Homicides Committed with a Firearm, 1991–2012

*(Chicago Police Department, 2011)*

They highlight several contributing factors to gun violence—alcohol use, mental-health problems, and failing in school—which seem to be underutilized targets for earlier intervention. They argue that deterring gun carrying among these at-risk youth would significantly reduce the homicide rates in the city (Ander et al., 2009).

## Private and Public Costs of Gun Crime

The far-reaching costs of gun violence can be very difficult to quantify. Immediate financial costs accrue to the police and the criminal-justice system, hospitals, and lawyers (both private and public). Indirect costs are caused by the public's safety concerns, which decrease property values, tourism revenue, and tax revenue (Levitt & Cullen, 1999). Individuals and families suffer lost wages due to the time victims spend in recovery and offenders spend in jail.

Anderson estimated that the United States spends \$1.2 trillion annually on crime for police, corrections, and legal and judicial costs—and gun violence has dramatically added to the overall burdens on the system (1999). Using data from 1997 Ludwig and Cook estimate that homicide is up to forty times more expensive for the United States criminal-justice system (costs per homicide are \$244,000; costs per

aggravated assaults are \$6,200).<sup>4</sup> Eliminating guns in crime would reduce criminal-justice costs by at least \$31,000 per gunshot injury that is prevented, even if offenders were to commit the same volume of crimes and substitute other weapons for guns. The United States criminal-justice system would have saved at least \$2.4 billion if all gun violence had been eliminated in 1997 (Cook & Ludwig, 2000). Cook and Ludwig estimate that the private and social costs of gun violence costs \$100 billion each year (2000). This figure does not, however, capture the loss in *potential* value incurred by gun violence. Several studies show that businesses in higher-crime neighborhoods are more likely to close early to avoid nighttime violence (Hamermesh, 1999; Levitt & Cullen, 1999). High crime also deters investment, because of the higher risks and costs of operating a business in a dangerous neighborhood, and lower investments reduce jobs for neighborhood workers (Greenbaum & Tita, 2004). As a result, crime often undermines the economic vitality and revitalization attempts of neighborhoods.

The aggregate private and social costs of gun violence in Chicago are on the order of \$2.5 billion annually, which provides a useful benchmark to gauge the cost-effectiveness of policies to curb gun violence (Ander et al., 2009). On a more granular level, Ludwig and Cook estimate that the social cost of guns is on the order of \$1 million per gunshot injury, using the contingent valuation method to determine individuals' willingness to pay to reduce gun violence in their area (2001). The social cost has likely increased over the past ten years, because the percentage of homicides committed with a gun has increased. Using their estimate, the 506 murders committed in Chicago in 2012 imposed a cost of \$506 million, which notably *excludes* nonfatal gunshot wounds. To put this figure in context, the total budget for the city of Chicago in 2012 was \$8.2 billion (Emanuel, 2012).

4. The difference in costs arises primarily because individuals are more likely to be arrested, tried, convicted, and sentenced to prison for homicides than for aggravated assault.

## Access to Illegal Weapons

Individuals charged with the unlawful use of a weapon usually obtain their weapons through the secondary market. The secondary market encompasses all unregulated firearm transactions, hence ones that do not involve a Federal Firearms License (FFL), legal acquisitions from gun shows and private sales, and illegal acquisitions.<sup>5</sup> Yet the secondary market, with about 30 million guns traded per year, is not well understood (Cook, Ludwig, Venkatesh, & Braga, 2007). The secondary market is a problem for law enforcement because it operates at the nexus of legal and illegal transactions. Studies estimate as many as 30 to 40 percent of all gun sales occur on the secondary market. The secondary market does not, of course, involve a background check through an FFL, so individuals with felony convictions, mental illness, and other disqualifying conditions are not prevented from obtaining weapons (Cook & Ludwig, 2000).

A 1992 survey of 1,874 convicted felons found that 21 percent obtained the handgun used in their crime from a retailer; the rest acquired the handgun from family and friends (44 percent), the black market on the street and drug dealers (26 percent), and other sources (9 percent) (Wellford et al., 2004; Wright & Rossi, 1994). The Bureau of Justice Statistics interviewed 2,280 handgun-using inmates and found that between 1991 and 1997 retail purchases of guns fell by a third whereas guns acquired from friends and family increased by about 25 percent (Harlow, 2001).

The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) gathers data on all firearms recovered by law-enforcement agencies and trace the guns to their original purchases through an FFL. Many guns used in crimes are illegally diverted to criminals and juveniles relatively quickly, with a "time to crime" (the length of time from the first retail sale to recovery by the police from a crime scene) of a few months or a few years (Cook & Braga, 2001). This study found that 32 percent of

5. Firearms are illegally when they are stolen, purchased by individuals with felony records (who, by law, are prohibited from buying or possessing firearms), are obtained and possessed without a FOID card, or when a legally purchased gun is given to a felon (a straw purchase).

traceable handguns recovered in thirty-eight cities that participated in ATF's Youth Crime Gun Interdiction Initiative were less than three-years old; only 18 percent of new guns were recovered from their first and legal purchaser (Cook & Braga, 2001).

## Deterring Gun Violence: Targeted Policing

The prevalence of gun violence, its concentration within certain neighborhoods and demographic groups, its social and financial costs, and the preponderance of guns on the secondary market pose serious public-policy challenges. Many policy analysts and researchers have sought to understand which types of programs and interventions are successful in deterring gun violence. The extant research on deterring gun violence is important to understand, though it is varied and often provides mixed conclusions.

Targeted policing is often effective at selectively reducing crime, but it is controversial because it requires a degree of bias in policing that some argue is unconstitutional. Programs in Pittsburgh and Kansas City have identified primarily black neighborhoods as areas to target, based on demographic data about crime rates (Fig. 5).

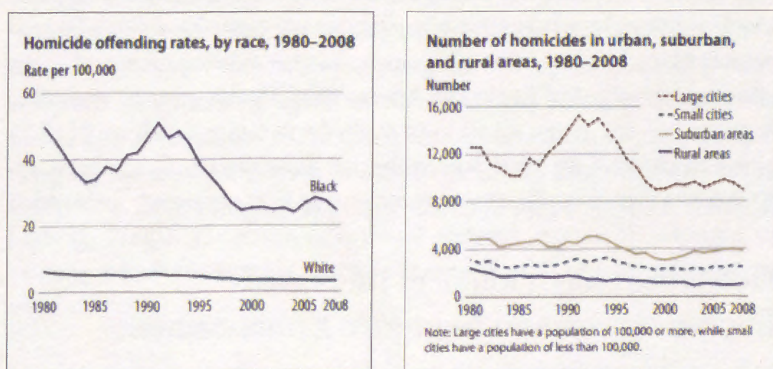


Figure 5: Homicide Offending Rates by Race and Number of Homicides by Location, 1980-2008

(Cooper & Smith, 2011)



The Pittsburgh program identified high-crime areas and had additional patrol officers look for illegally carried firearms. The goal was to determine if targeted patrols would deter high-risk individuals from carrying or using guns in public. An analysis found that shots fired may have been reduced by up to 34 percent and gunshot injuries by as much as 71 percent in the targeted areas. Despite these gains, relatively few guns were confiscated and only a small number of arrests were made. Cohen and Ludwig noted that extra patrols may have deterred would-be illegal gun carriers on the margin but may not have deterred individuals who regularly carry illegal weapons (2003).

The Kansas City Gun Experiment was a randomized control experiment to determine the impact of increased police patrols on crime reductions. The police increased patrols to target illegal gun possession in one high-crime area of the city and maintained status quo patrols in another area that had a similar number of drive-by shootings. The targeted area experienced a 49 percent reduction in gun crimes during the study period; gun crimes increased by 4 percent in the comparison area and decreased by only 2 percent in the city as a whole. These findings are promising, but there is, however, no guarantee that the trends in crime in the two areas would have been identical in the absence of the intervention, in particular because there were some differences in crime trends during the pre-intervention period between the two neighborhoods. Consequently, this program provides some evidence for the effectiveness of police patrols to combat illegal gun carrying, though it remains difficult to determine how much of the reduction in gun crimes in the treatment area can be attributed to deterrence from the program (Cook & Ludwig, 2000; Sherman, Shaw, & Rogan, 1995).

## Deterring Gun Violence: Increased Imprisonment and Sentence Enhancements

Policy analysts argue that weak penalties for gun crimes send the message to individuals on the margin (i.e., individuals deciding whether or not to carry a gun) that illegal possession is not treated seriously by the criminal-justice system relative to other crimes. Consequently, many

researchers have studied automatic and irreversible sentence enhancements for crimes involving a firearm. In 1982 California passed Proposition 8, which imposed additional prison terms for repeat offenders convicted of certain felonies (murder, rape, robbery, aggravated assault with a firearm, and burglary). Kessler and Levitt found that these felonies decreased relative to rates of other crimes in California following Proposition 8 and exceeded what was observed in other states. The result is an implied 20 percent reduction in targeted crimes seven years after the referendum (1999). It is not known, however, whether Proposition 8 deterred or merely incapacitated would-be criminals.

One project in Richmond, Virginia, diverted cases of a felon in possession of a firearm from state to federal courts where defendants faced a mandatory five-year prison sentence if convicted. The project also trained Richmond's police on federal statutes and search and seizure procedures. Supporters lauded the program's 40 percent reduction in gun-related homicides. However, Raphael and Ludwig found that Richmond had been experiencing an unusually high level of gun-related homicide prior to the implementation of the program, and the city would have seen a decrease regardless of the program (2003). The Richmond project cost about \$39 million from February 28, 1997, through March 14, 1999. Controlling for the possible conflation of natural decreases in gun homicide at the time of the program with the program's actual effects, they conservatively estimated a 15 to 20 percent reduction in gun-assault injuries and estimated benefits on the order of \$150 to \$240 million, which is four to six times the total cost of the program. Even allowing for additional costs of incarceration and publicizing the program, it appears to be a cost-effective policy (Cook & Ludwig, 2000). However, additional research would be required to validate whether sentence enhancements would be cost-effective in other contexts.

## Deterring Recidivism

Probation may be an opportunity for altering criminal behavior but, unlike incarceration, it generally does not allow constant and direct oversight of the offender. The HOPE (Hawaii's Opportunity Probation

with Enforcement) program showed promising results for reducing criminal recidivism (Hawken & Kleiman, 2009). The program was a one-year (2004) experimental probation intervention that emphasized the delivery of “swift and certain” sanctions when an offender violated the conditions of probation. Individuals in the program were randomly assigned drug testing on a daily basis and failure to appear for a drug test or a positive test resulted in an immediate, albeit short, jail stay. Sentences increased for successive violations. The program randomly assigned probationers to the program or to a control group (Fig. 6). After one year the HOPE probationers were 55 percent less likely to be arrested for a new crime, 72 percent less likely to use drugs, 61 percent less likely to skip appointments with their parole officer, and 53 percent less likely to have their probation revoked (Hawken & Kleiman, 2009).

Using criminology and behavioral-economics research, the program determined that if people think they have a low probability of being punished or that a strident punishment will be deferred, they are more likely to commit crimes, whereas an immediate and high-probability threat of milder punishment prevents people from committing crimes. The swiftness and certainty of sanctions in the HOPE program further

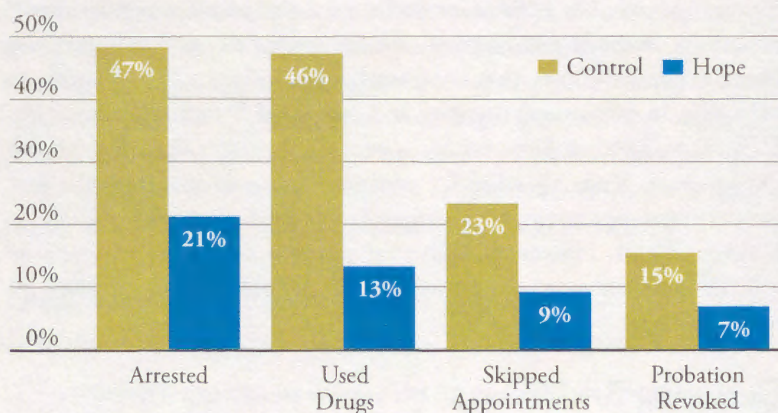


Figure 6: HOPE Program Outcomes  
(Hawken & Kleiman, 2009)

ensure that offenders are aware that probation violations are met with a consistent punitive response, which augments the importance of personal responsibility and accountability in corrections. The study lasted only one year; it would be useful to know if this deterrence could be sustained longer term. Despite this limitation, the HOPE program may prove to be a useful and low-cost model for Cook County to further reduce recidivism.

## Methodology

Though there has been extensive research about the effects of guns on violent crime, there has been little research into the impact that dispositions for gun possession have on recidivism. The hypothesis seems plausible that illegal possession of a weapon is indicative of criminal proclivities and could be an indicator of future criminal involvement. An arrest for illegal possession of a firearm is often an individual's first point of contact with the criminal-justice system. Consequently, Unlawful Use of Weapon charges and dispositions provide a leverage point and an opportunity for the criminal-justice system to attempt to deter future criminal involvement. For this study, I used disaggregated data from the Chicago Police Department and gathered data from the Circuit Court of Cook County records to develop an original data set. With this data, I analyzed the likelihood of reoffending, controlling for demographic factors and the final court disposition, using ordinary least-squares and logistic-regression models.

## Study Frame

Chicago's gun policies underwent several changes between 2008 and 2010 in response to *District of Columbia v. Heller* (2007) and *McDonald v. Chicago* (2010), which overturned the ban on handgun possession in the city limits and expanded the right to possess handguns legally. The city then passed ordinances aimed at regulating who could legally possess a gun, requiring owners to register guns with the police, to possess a FOID card, and to pass a gun-safety course. Firearms were no longer sold within the city. Opponents to these laws argue that they

restricted legal gun possession and were burdensome. Despite these ordinances, illegal gun possession remains a problem in Chicago, and some argue that making legal gun access more difficult encouraged more individuals to carry firearms illegally. In light of these claims, the net effect of the Chicago gun-possession laws remains unclear.

In order to limit the potentially conflating factors that influence the flow of illegal guns and gun possession within the city, I selected 2007 for analysis because it was before these court-ordered changes in Chicago's handgun possession policy took effect. Choosing a date from five years ago also allows for sufficient time to track the criminal involvement of the individuals in the study, thus creating a robust data set. In addition, I limited the statutes under consideration to cases where U UW was the *primary* charge on the arrest in order to identify a population of individuals with a similar level of criminal involvement. Typically, an individual will be arrested for multiple charges. For example, a primary U UW charge may include secondary and tertiary offenses for illegal possession of ammunition and loitering in a public area. In this case, the U UW would be the primary, or most serious, charge. In another scenario, an individual arrested for shooting another person with an illegal gun could be charged with attempted homicide, aggravated assault, and a U UW. The U UW charge is not the primary charge in this case.

The U UW charge also includes dozens of specific statutes with a wide range of severity. In 2007 eight-four distinct charges were used as the primary charge for U UW arrests. From this list of statutes, I determined which were appropriate to include for the sample based on the specific language of the statutes (Illinois General Assembly, 2007). I included only statutes that involved illegal possession of a firearm, excluding cases that involved possession of ammunition or explosive bullets without possession of a weapon, unlawful sale of firearms or gun running (i.e., arms trafficking or the illegal transfer of contraband weapons or ammunition), use of a weapon other than a gun, and cases that involved aggravated assault with a weapon. I also excluded individuals who had a prior adult criminal records, for example an individual with a "second and subsequent adult charge."

I restricted the sample to individuals who were age seventeen or older at the time of the UUW arrest, which was also their first Chicago arrest. The courts often treat juvenile sentencing differently than adult sentencing; hence the impact of dispositions on recidivism for juveniles and adults is not directly comparable. I further restricted the sample population to individuals whose first point of contact with the Chicago Police Department (CPD) was their 2007 UUW arrest to isolate the impact of this first disposition and eliminate the possibility of any treatment effect from prior dispositions in Chicago. I could then understand how an individual's first adult arrest and disposition effected future criminal involvement in the city. This analysis allows me to evaluate whether the CPD's and court's treatment of illegal gun possession cases effectively deter future criminal activity.

UUW charges can be either Illinois State statutes or City of Chicago ordinances, which often indicates the severity of both the crime and disposition. City ordinances are primarily given in situations where the illegal firearm is recovered from inside a house, whereas state charges are given when the firearm is recovered on the street (Karen Conway, director of CPD's Research and Development Division, personal communication, 2013). For example, the police could arrest an individual on a city UUW charge if they have been called to a house on a domestic abuse case, drug selling case, etc., and found an illegal weapon. A state UUW charge would be given in a case where a police officer stopped an individual for suspicious behavior, searched the individual, and discovered an illegal weapon. The first scenario seems fundamentally different from the second or any other situation in which an individual is charged with illegal possession of a firearm on the street, so I restricted my study frame to the seventeen Illinois statutes (Table 2).

Individuals may have had prior arrests that would not be captured by the CPD arrest record, such as arrests in other districts or juvenile offenses, which are sealed. Despite these potential limitations, this was the narrowest evaluation frame given the available data. Furthermore, the Chicago arrest data used in my analysis may not capture all subsequent arrests for the individuals whose charge qualified them for inclusion in the analysis. Arrests that occurred outside of Chicago or that have been

**Table 2: Illinois Statutes Included in the Sample**

STATUTE	DESCRIPTION	FREQUENCY	%
430 ILCS 65.0/2-A-1	Firearm w/o Valid FOID/Elig	21	15.11
430 ILCS 65.0/2-A-1	Possess Expired Firearm FOID	2	1.44
720 ILCS 5.0/24-1-A-10	UUW - Weapon - Public Street/Alley/Lands	2	1.44
720 ILCS 5.0/24-1-A-4	UUW - Weapon - Carry/Possess Firearm/s	4	2.88
720 ILCS 5.0/24-1-A-4	UUW - Weapon - Vehicle/Concealed on Person	24	17.27
720 ILCS 5.0/24-1-A-4	UUW - Carry/Possess Firearm/1st	2	1.44
720 ILCS 5.0/24-1-A-7-II	UUW - Weapon - Rifle <16" - Shotgun <18"	4	2.88
720 ILCS 5.0/24-1-A-8	UUW - Weapon - Bar/Public Gath/ (Licence/Admin)	2	1.44
720 ILCS 5.0/24-1-A-9	UUW - Weapon - Possess/Carry /Conceal	8	5.76
720 ILCS 5.0/24-1.6-A-1	UUW - Weapon - Agg./Veh. or Concealed	27	19.42
720 ILCS 5.0/24-1.6-A-2	UUW - Weapon - Agg./Public St./Alley/Land	18	12.95
720 ILCS 5.0/24-1.6-A-2	UUW - Agg UUW/Person/Vehicle/Previous Conviction	8	5.76
720 ILCS 5.0/24-1.6-A-3-A	UUW - Weapon-Agg/Uncased/Loaded/Accessible	5	3.60
720 ILCS 5.0/24-1.6-A-3-C	AGG UUW - No FOID 1st Offnse	1	0.72
720 ILCS 5.0/24-1.6-A-3-C	UUW - Weapon - No FOID	3	2.16
720 ILCS 5.0/24-1.6-A-3-1	AGG UUW - Under 21 Handgun 1st Offnse	2	1.44
720 ILCS 5.0/24-3.1-A-1	UUW - Unlawful Possess Handgun	6	4.32
<b>TOTAL</b>		<b>139</b>	<b>100</b>

**\*NOTE:** The descriptions of some of the statutes listed above would seem to render them incompatible with the study frame, in particular, the descriptions for 720 ILCS 5.0/24-1.6-A-1 ("AGG"), 720 ILCS 5.0/24-1.6-A-2 ("AGG" and "Previous Conviction"), 720 ILCS 5.0/24-1.6-A-3-A ("AGG"). However, I verified that these were not circumstances when the firearm was used in an aggravated manner, so these were not disqualifying cases. Furthermore, the "previous conviction" description in 720 ILCS 5.0/24-1.6-A-2 describes one element that can be a rationale for the charge, but this was not the case for the eight cases. These were first Chicago arrest for all the individuals in the sample.

expunged or stricken from an individual's record also would not be recorded on an individual's arrest history.

These parameters—selecting only 2007 arrests, prior to the major gun policy changes in Chicago; evaluating only Illinois-statute UUW where UUW was the primary arrest charge and was *not* an aggravated possession case; and identifying adults whose first contact with the CPD was a 2007 UUW arrest—created a very specific sample population. I then used an analytical framework to evaluate this population and to address some pressing general questions about illegal gun possession that may help to decrease crime in Chicago. For example, when charges are dropped is an individual more likely to reoffend? Are judges effectively sorting out which arrestees deserve probation, should serve jail time, or should have charges dropped? Is the criminal justice system correctly prioritizing its caseload?

## Data Collection and Management

I analyzed CPD administrative arrest records and Circuit Court of Cook County disposition data. Compiling the data set consisted of refining data from the CPD and subsequently matching this data with publicly available court records. I requested CPD administrative arrest records from January 1, 2007, through December 31, 2007, for the highlighted charges in Appendix A, which also includes the statutes for every UUW arrest from 2007. Using the parameters explained above, I identified 139 qualifying cases in 2007.<sup>6</sup> The CPD Research and Development Division provided me with the Record of Arrest and Prosecution (RAP)

6. I refined the original 1,135 total cases to 141 cases where the UUW was the individual's first arrest with the CPD, the individual was age seventeen or older at the time of arrest, the UUW charge was the primary charge, the UUW statute was a state charge, and the gun was not discharged. However, for two cases (CB #16957617 and CB #16869495), the CPD records were missing and these individuals had no known IR number. As a result, their complete records could not be traced and they were excluded from the sample, resulting in the final 139 cases. The most common reason for a charge to be ineligible was the existence of prior charges.



sheets for all individuals with a qualifying 2007 U UW charge. A RAP sheet provides the full criminal history, including all charges prior to and subsequent to the U UW charge. The division uses several identifiers for individuals' records within the system; to protect the privacy of the individuals in the study, I relied on individuals' unique IR (internal reporting) number, which allowed me to aggregate and analyze an individual's entire arrest history while also protecting anonymity. For each RAP sheet, I requested the following fields:

1. Central Booking (CB) number
2. Internal Reporting (IR) number
3. RD number<sup>7</sup>
4. Arrestee date of birth
5. Arrestee sex
1. Arrestee race/ethnicity
2. Date and time of arrest
3. Address where arrest occurred
4. District where arrest occurred
5. Beat where arrest occurred
6. Statute and statute description for primary arrest charge
7. Statute and statute description for secondary arrest charge
8. Charge class
9. Charge type (e.g., misdemeanor or felony)

With these CPD data fields I could refine the population of qualifying individuals and conduct the analysis.

To collect disposition data I visited the circuit court terminals where the public can search disposition data by name, date of birth, date of arrest, IR number, and a number of other criteria. When searching IR numbers, the terminals present chronological, public arrest data.

7. The police report number.

Only juvenile records and adult records that have been sealed or expunged from an arrest history are not available. Upon identifying and selecting the desired arrest (which, unless the individual had prior Cook County arrests that occurred outside of Chicago, would have been the first in the list), the court database catalogues all interactions that occur after an individual is arrested. For every charge these interactions include bond and bail status, court dates, instances where the arrestee fails to appear for court, instances where the judge requests more evidence, disposition information for each charge associated with the arrest, subsequent dispositions (for example, if an individual violated the terms of probation and received a second, more serious disposition, such as a fine or incarceration). I recorded all disposition data for the 139 qualifying UUW arrests and merged this data with the CPD administrative records to compile the full data set for my analysis.

Before generating the regression estimates, I had to clean up the data. My first major problem was incorrect birth dates, likely due to human data-entry errors. I needed correct birth dates to determine that individuals were seventeen at the time of arrest and eligible for inclusion in the study. In most cases, an individual would have a "dominant" birth date, which appeared most frequently on the arrests records and the RAP sheet. Often times outlier dates would only differ from the most frequent date by one or two digits, which suggest a typographical error. In these cases, I chose the most frequent date as the correct birth date. In cases where there were was no "dominant" birth date (for example, four arrest entries, two with one birth date and two with another) I chose the date used on the individual's *first* arrest.

Second, I had to code the disposition data properly because the analysis controlled for the court disposition to determine its impact on recidivism. All cases in the sample had a qualifying UUW charge as the primary charge in the arrest, and in many cases this was accompanied by secondary, less serious charges. Each charge received its own disposition, though they could all be the same. For the UUW charges and subordinate charges, only probation and incarceration involved actual punishment. Probation could be straight probation, conditional discharge, or court supervision; incarceration is its own category. Other possible dispositions

were not guilty; dropped charges, including *nolle prosequi* or “unwilling to pursue,” in which the prosecutor decides to drop charges, or “non-suit,” in which the plaintiff moves to release the defendant from liability; and finally, other assorted dispositions that similarly did not mete out punishment.

Since each individual received dispositions for each associated charge of the U UW arrest, I needed to choose a “dominant” or principal disposition for each case to be used in the analysis. For each of the 139 cases, I chose the disposition for the primary charge unless a subsequent disposition was more stringent. The rationale for this was that, in certain cases, the primary U UW charge was dropped, but the individual received a disposition (usually probation) for a secondary offense. Because these charges come as a package deal of sorts, it was logical to evaluate the impact of the most stringent disposition on the likelihood of reoffending.

## Quantitative Analysis Methods

Once I had compiled the data set, I created dummy and nominal-outcome variables. I created a variable “reoffend\_d” for use in logistic analysis, which is a dummy variable that equals 1 when the individual had at least one arrest after the U UW arrest and 0 when the U UW arrest was the individual’s only arrest. For subsequent logistic-regression models, I created “reoffend1yr\_d,” which equals 1 when the individual reoffended within one year and 0 when the individual didn’t reoffend within one year, and “reoffend2yrs\_d,” which equals 1 when the individual reoffended within two years and 0 when the individual didn’t reoffend within two years. Finally, I created the nominal variable “postchargecount” which indicates the number of times the individual was arrested after the first U UW arrest.

I also developed indicator variables for the predictor covariates in order to conduct regression analysis. These indicator variables show the presence or absence of a particular characteristic. To do this for a given nominal variable with  $x$  number of answer categories, I made  $x-1$  indicator variables. The omitted answer becomes the “reference category.” I controlled for a number of demographic factors, characteristics of the U UW charge, and the disposition outcome and hence developed

indicator variables for each of these categories. These controls include age, sex, race, charge type, whether or not the individual received a disposition, and the most stringent disposition. To control for the impact of age on reoffending, I divided ages into the brackets typically used in crime reporting: 17–24, 25–34, 35–49, and 50 or above, which was the reference category. To control for the impact of race on reoffending, I considered blacks, non-white Hispanics, and whites, which were the reference category. For the impact of charge type, I evaluated the impact of whether the initial UUW charge was a felony or misdemeanor, which was the reference category. I included a few different controls for disposition. I generated a dummy variable for when an individual receives a disposition that takes on a value of 1 when an individual received a punitive disposition (either probation or incarceration) and a 0 if not. I created another variable for when an individual does *not* receive a disposition that takes on a value of 1 when an individual did not receive a punitive disposition and a 0 if they did receive either incarceration or probation.

Subsequently, I generated logistic- and linear-regression models. In statistics, logistic regression is used for predicting the outcome of a categorical dependent variable, also known as a “left-hand” variable, based on one or more “right-hand” predictor variables. A categorical variable can take on a limited number of values, typically a binary variable that can be either 1 or 0. Logistic regression calculates the probabilities of possible outcomes using a logistic function on the predictor variables. The estimates reported from this function are probability scores or odds ratios as the predicted values of the dependent variable. The regression coefficients represent the change in the logit for each unit change in the predictor, though I evaluated the likelihood ratios (which is the exponential function of the coefficient), as these are more intuitive to interpret. To do this, one compares the deviance of the odds ratio from the null hypothesis, which is that the predictor variable has no impact on the outcome of the dependent variable. The odds ratio expresses how many times more likely that data or outcome is under the alternative model than under the null-hypothesis model.

Linear regression is another approach to modeling the relationship between a dependent variable  $y$  and one or more predictor variables denoted  $x$ . The dependent variable is continuous, meaning it can take on a range of values. Because my analysis used multiple predictor variables, this is known as multiple linear regression. Linear regression evaluates the conditional probability distribution of the dependent variable  $y$  given the predictors  $x$ , and fits a predictive model to a data set of  $y$  and  $x$  values. The regression coefficients represent the change in the outcome of the dependent variable for each unit change in the predictor variable, holding all other predictor variables at their means. This fitted model can then be used to make a prediction about the value of  $y$  if the values of the  $x$  covariates are known. Linear regression can be used to evaluate the strength of the relationship between  $y$  and  $x$  to assess which predictor variables may have no relationship with  $y$  at all, which contain redundant information about  $y$ , and which are significant predictors.

I ran initial regressions with all potentially significant variables to determine what was in fact significant. Variables that were significant at the  $p < .10$  level were retained; all others were cut from the regression. There were, however, a few exceptions to this significance-level cutoff. I retained the "charge type" variable because this is the only proxy available for the seriousness of the crime, which should be controlled for when considering whether or not an individual will reoffend. Variables that were significant around the  $p < .15$  were also retained. For the logistic analysis I created three separate models; in the first I used "reoffend\_d" as the left-hand variable; in the second I used "reoffend1yr\_d"; and in the third I used the "reoffend2yrs\_d." Finally, I created one linear-regression model where the left-hand variable was the "postchargecount."

## Analysis

The parameters described in my methodology identified a very particular population of individuals with no criminal records in Chicago prior to their 2007 UYW arrest. The data from the CPD administrative records and the court dispositions do not reveal much about what motivated this population to be illegally armed, the process by which they acquired the firearm, and their intention to use or not use their firearms. Absent this qualitative understanding of the population, I use descriptive statistics based on demographic information and provide context before delving into the regression analysis. The logistic-regression analysis reveals the likelihood that these individuals are arrested again given their demographic and sentencing characteristics, while the linear-regression analysis reveals how much and in what direction each predictor variable contributes to a change in the number of subsequent arrests an individual receives.

## Descriptive Statistics

All individuals in the sample were adults in the criminal-justice system and age 17 or older at the time of their first UYW arrest (Fig. 7). The data is

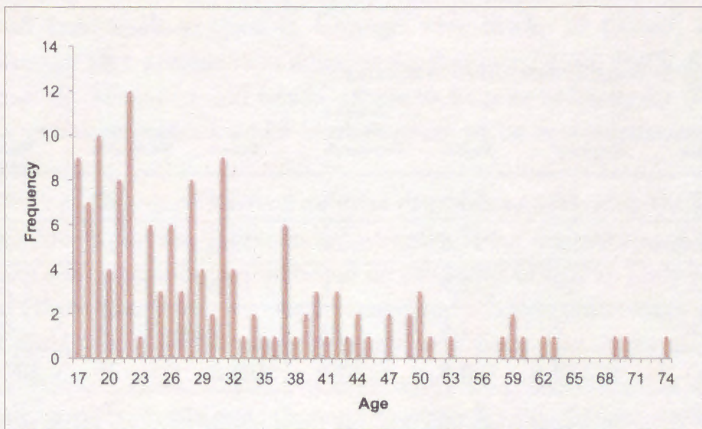


Figure 7. Age at 2007 UYW Arrest

**Table 3. Age Descriptive Statistics**

Age at 2007 UUW Arrest	Frequency	Percent	Received Punitive Disposition	Percent	Number that Reoffended	Percent
17-24	57	41.0	33	42.8	24	61.6
25-34	42	30.2	27	35.1	5	12.8
35-49	26	18.7	8	10.4	8	20.5
50 or older	14	10.1	9	11.7	2	5.1
<b>Total</b>	<b>139</b>	<b>100.0</b>	<b>77</b>	<b>100.0</b>	<b>39</b>	<b>100.0</b>

**Table 4. Sex Descriptive Statistics**

Sex of Arrestees	Frequency	Percent	Received Punitive Disposition	Percent	Number that Reoffended	Percent
Male	130	93.5	71	92.2	37	94.9
Female	9	6.5	6	7.8	2	5.1
<b>Total</b>	<b>139</b>	<b>100.0</b>	<b>77</b>	<b>100.0</b>	<b>39</b>	<b>100.0</b>

\*NOTE: Of the punitive dispositions, sixty-four males received probation and seven received incarceration; all six females received probation and none were incarcerated

**Table 5: Race Descriptive Statistics**

Race of Arrestees	Frequency	Percent	Received Punitive Disposition	Percent	Number that Reoffended	Percent
Black	88	63.3	48	62.3	23	59.0
Hispanic	30	21.6	18	23.4	14	35.9
White	19	13.7	11	14.3	2	5.1
Other	2	1.4	0	0.0	0	0.0
<b>Total</b>	<b>139</b>	<b>100.0</b>	<b>77</b>	<b>100.0</b>	<b>39</b>	<b>100.0</b>

\*NOTE: Of the punitive dispositions, forty-two blacks received probation and six received incarceration; seventeen Hispanics received probation and only one received incarceration; all other dispositions were probation.

positively skewed: 41 percent of the arrestees were 17–24, 71 percent were 35 or younger, and only 10 percent were 50 or older. Individuals in the 35–49 bracket were less likely to receive a punitive disposition; all others were more likely to receive either probation or incarceration. Interestingly, arrestees who were 17–24 at the time of their first arrest were much more likely to have subsequent arrests, while individual 24–34 and 50 or older were about half as likely to reoffend (Table 3).

The arrestees were predominantly male: only nine of the 139 were women, resulting in a 93.5 percent male population. Males and females were about equally likely to receive punitive dispositions, though none of the females were incarcerated. Males were also slightly more likely to reoffend, and females were slightly less likely to reoffend, though this result may be insignificant based on such a small population of women (Table 4).

The arrestees were over 63 percent black, almost 22 percent Hispanic, and 15 percent white or other races (Table 5). These numbers are skewed from the general population. In 2010 the population of the United States was 12.6 percent black, 16.3 percent Hispanic, and 72.4 percent white; the population of Illinois was 14.5 percent black, 15.8 percent Hispanic, and 71.5 percent white (US Census, 2010). Despite these demographics, the 2007 CPD annual report indicates that 71.9 percent of all individuals arrested in Chicago were black, 18 percent were Hispanic, 10.1 percent were white or another race (Weis, 2007). Consequently, Hispanics and whites appear to be over-indexing for illegal gun possession arrests while blacks appear to be under-indexing for these arrests.

All racial groups received punitive dispositions at roughly the same rate. Except for the “other races” category about 60 percent of each group was either incarcerated or put on probation (Table 5). Only black and Hispanic arrestees were incarcerated and all other dispositions were for probation. Based on the percentage they comprised of the sample population, blacks, whites, and other races were, however, much less likely to reoffend, whereas Hispanics were much more likely to reoffend.

Of the charges eighty-eight (63.3 percent) were felony arrests while the remaining fifty-one (36.7 percent) were misdemeanor arrests, which



are less serious than felony arrests and subsequently have less stringent dispositions. Misdemeanor arrests under-indexed for a punitive disposition while felony arrests over-indexed for receiving serious dispositions (Table 6). Despite this, individuals with misdemeanor charges were about equally as likely as individuals with felony charges to be arrested again.

Seventy-seven of the 139 arrestees (55.4 percent) received a punitive disposition. The remaining cases were dropped, the defendant was found not guilty, or the defendant received another non-punitive disposition. These other dispositions include outcomes where the charges were stricken from the defendant's record, the court did not reach a decision, or the defendant died midway through the proceedings, among others (Table 7). Individuals receiving probation or incarceration were much more likely to reoffend relative to the percent they constitute of the sample population. Individuals receiving all other dispositions were much less likely to reoffend.

## Discussion of Key Results

I generated three logistic-regression models and one linear-regression model for this analysis. The null hypothesis of all models is that the

**Table 6: Charge-Type Descriptive Statistics**

Race of Arrestees	Frequency	Percent	Received Punitive Disposition	Percent	Number that Reoffended	Percent
Misdemeanor	51	36.7	25	32.5	14	35.9
Felony	88	63.3	52	67.5	25	64.1
<b>Total</b>	<b>139</b>	<b>100.0</b>	<b>77</b>	<b>100.0</b>	<b>39</b>	<b>100.0</b>

\*NOTE: Of the punitive dispositions in misdemeanor cases, twenty-four were probation and one was incarceration; of the punitive dispositions in felony cases, forty-six were probation and six were incarceration.

demographic factors and disposition outcome controlled for in the analysis have no impact on the outcome variable. The first logistic model shows the impact of these controls on whether or not an individual reoffends. Appendix B shows the results of the initial logistic regression run on all predictor variables, and Table 8 shows the results when the regression was run a second time with just the significant predictor variables. These estimates indicate that, holding all other predictors at their means, individuals age 17–24 at the time of their 2007 UYW arrest are nearly six times more likely than the average person to be arrested again; individuals age 35–49 at the time of their 2007 UYW arrest are over four times more likely to be arrested again; Hispanics are nearly three times more likely to be arrested again; and individuals receiving any punitive disposition for their primary UYW charge are two times more likely to be arrested again. The directional effect of being male and black was to increase the likelihood of reoffending whereas the effect of being 25–34 at the time of arrest or to have been charged with a felony decreased the likelihood, although these last estimates were not statistically significant.

These likelihood estimates indicate that reoffending is strongly linked to age at the time of first arrest, race, and the disposition outcome

**Table 7: Disposition Descriptive Statistics**

Most Stringent Disposition			Number that Reoffended	
	Frequency	Percent		Percent
Incarceration	7	5.0	3	7.7
Probation	70	50.4	22	56.4
Not Guilty	10	7.2	2	5.2
Charges Dropped	24	17.3	5	12.8
Other	28	20.1	7	17.9
<b>Total</b>	<b>139</b>	<b>100.0</b>	<b>39</b>	<b>100.0</b>

**Table 8: Logistic-Regression Estimates  
for Reoffending, Significant Predictor Variables**

Predictor Variable	Controls For	Estimated Likelihood (standard error)
Age 17–24 = 1 if individual was 17–24 (=0 else)	Effects of age on reoffending	5.69*** (2.94)
Age 35–49 = 1 if individual was 35–49 (=0 else)	Effects of age on reoffending	4.13** (2.59)
Hispanic = 1 if Hispanic (=0 if else)	Differences in reoffending between Hispanics and others	2.93** (1.41)
Disposition Received = 1 if incarceration or probation (=0 if else)	Effects of a punitive disposition on reoffending	2.17* (0.96)
† Disposition Not Received = 1 if no punitive disposition (=0 if disposition received)	Effects of not receiving punitive disposition on reoffending	0.46* (0.20)
Charge Type = 1 if felony (=0 if misdemeanor)	Differences in severity between charges	0.57 (0.27)
N		139
Adjusted R <sup>2</sup>		0.131

\* p is less than .1    \*\* p is less than .05    \*\*\* p is less than .01

\*NOTE: The “disposition received” and “disposition not received” were not included within the same model. I included them within the same table because regardless of which one was used in the logistic model, the estimates for the other covariates were the same. Hence, when observing this table, it should be either with the “age 17–24,” “age 35–49,” “Hispanic,” “disposition received,” and “charge type” controls or with the “age 17–24,” “age 35–49,” “Hispanic,” “disposition not received,” and “charge type” controls.

of the individual's first point of contact with the CPD. This observation about the impact of age at arrest is corroborated by the fact that in 2007, 35 percent of all arrested individuals were between 17 and 24 and younger people are more likely to have multiple arrests than older arrestees (Weis, 2007). However, the standard error of the likelihood estimates is high and coefficient of determination ( $R^2$ ) is very small at 0.131, meaning that only about 13 percent of the variability in the model is explained by the given variables. Consequently, the model is underspecified and most of the variation is explained by variables the model does not contain.

I subsequently ran this same model but using a covariate for *not* receiving a disposition (denoted in Table 8 by the † symbol). This predictor cannot be run simultaneously as the variable for receiving a disposition; due to collinearity (or alignment between the two variables) one of the two disposition variables would be automatically dropped from the analysis. However, regardless of if I included the disposition-received or no-disposition-received variable, the likelihood estimates, significance levels, and standard-error estimates for the other covariates remained the same. The coefficient for not receiving a disposition is the inverse of the coefficient for receiving a disposition. Consequently, not receiving a punitive disposition resulted in individuals being less than half as likely to reoffend than the average individual in the sample.

The finding that individuals receiving a punitive disposition were more likely to reoffend and individuals receiving no disposition were less likely to reoffend struck me as counterintuitive. My initial hypothesis, before running this analysis, was that individuals would be more likely to reoffend if their charges were dropped, based on the premise that they were not punished for carrying a gun illegally, they would think the city is not tough on crime, and they would not be deterred from future offending. I further hypothesized that individuals who were punished for their UYW arrest would seek to avoid future punishment and be less likely to reoffend.

To gain a more granular understanding of the impact of disposition on the likelihood of reoffending, I developed two subsequent regression models that evaluated the likelihood of reoffending within one year or two years. Table 9 shows the logistic-regression estimates for reoffending

**Table 9. Logistic-Regression Estimates for Reoffending Within One Year, Significant Predictor Variables**

Predictor Variable	Controls For	Estimated Likelihood (standard error)
Hispanic = 1 if Hispanic (=0 if else)	Differences in reoffending between Hispanics and others	7.61** (4.95)
Age 25-34 = 1 if individual was 25-34 (=0 else)	Effects of age on reoffending	0.20** (0.17)
N		77
Adjusted R <sup>2</sup>		0.195

\* p is less than .1 \*\* p is less than .05 \*\*\* p is less than .01

**Table 10: Logistic-Regression Estimates for Reoffending Within Two Years, Significant Predictor Variables**

Predictor Variable	Controls For	Estimated Likelihood (standard error)
Hispanic = 1 if Hispanic (=0 if else)	Differences in reoffending between Hispanics and others	5.28** (3.32)
Age 17-24 = 1 if individual was 25-34 (=0 else)	Effects of age on reoffending	4.43** (2.76)
N		77
Adjusted R <sup>2</sup>		0.198

\* p is less than .1 \*\* p is less than .05 \*\*\* p is less than .01

within one year and Table 10 shows the estimates for reoffending within two years. Both analyses are limited to the population of arrestees who received a punitive disposition as the most stringent outcome of their 2007 UYW arrest, which included seventy-seven out of the 139 individuals in the sample. This sub-sample included seventy dispositions of probation and seven incarcerations.

From these analyses, I found that individuals receiving punitive dispositions were more likely to reoffend within a one- or two-year window. Age and race were very significant predictors of reoffending. With all other covariates held at their means, Hispanics who received either incarceration or probation were nearly eight times as likely to reoffend within one year and more than five times as likely to reoffend within two years. Furthermore, holding all other covariates constant, individuals age 25–34 were only one fifth as likely to reoffend within a year; individuals age 17–24 were almost four and a half times as likely to reoffend within two years. The  $R^2$  for these models indicate that they each explain about 20 percent of the variability in the data. The standard-error estimates for these models are also large and, as with the first logistic model, these models are underspecified.

Subsequently, I developed a linear-regression model to determine the impact of the predictor variables on how often individuals in the sample population reoffended after their initial 2007 UYW arrest. Unlike the logistic regression, which gives likelihood estimates for the contribution of each predictor, linear models reveal how much and in what direction each covariate contributes to a change in the outcome variable. Appendix C shows the results of the initial linear regression run on all predictor variables. Table 11 presents the linear-regression estimates for the significant-predictor variables and the coefficients indicate the extent to which each predictor variable contributes to the number of subsequent arrests.

Individuals age 17–24, Hispanic, or received a punitive disposition were arrested more frequently after their initial 2007 UYW arrest. Individuals in the sample population were arrested a maximum of six and a minimum of zero times subsequent to their 2007 UYW arrest, with the average at 0.6 arrests. Given this range, a 0.6 coefficient indicates

**Table 11. Linear Regression, Significant Predictor Variables**

Predictor Variable	Controls For	Estimated Likelihood (standard error)
Age 17-24 = 1 if individual was 17-24 (=0 else)	Effects of age on reoffending	0.63** (0.21)
Hispanic = 1 if Hispanic (=0 if else)	Differences in reoffending between Hispanics and others	0.58** (0.24)
Disposition Received = 1 if incarceration or probation (=0 if else)	Effects of a punitive disposition on reoffending	0.33* (0.20)
† Disposition Not Received = 1 if no punitive disposition (=0 if disposition received)	Effects of not receiving punitive disposition on reoffending	-0.33* (0.20)
Charge Type = 1 if felony (=0 if misdemeanor)	Differences in severity between charges	-0.10 (0.21)
Black = 1 if black (=0 if else)	Differences in reoffending between blacks and others	0.09 (0.29)
N		139
Adjusted R <sup>2</sup>		0.131

\* p is less than .1 \*\* p is less than .05 \*\*\* p is less than .01

\*NOTE: The "disposition received" and "disposition not received" were not included within the same model. I included them within the same table because regardless of which one was used in the linear model, the estimates for the other covariates were the same. Hence, when observing this table, it should be either with the "age 17-24," "Hispanic," "disposition received," and "charge type" controls *or* with the "age 17-24," "Hispanic," "disposition not received," and "charge type" controls.

a 10 percent increase in the number of subsequent arrests, whereas a  $-0.6$  coefficient indicates a 10 percent decrease in the number of subsequent arrests. Individuals age 17–24 at the time of their initial 2007 UYW arrest (coefficient of 0.63) had a 10 percent increase in the number of arrests after their first point of contact with the CPD. Hispanics (coefficient of 0.58) also had about a 10 percent increase in the number of post-UYW arrests. Receiving a stringent disposition increased an individual's arrest count by more than 5 percent. As with the other models, however, the standard error for the coefficients is large and the  $R^2$  is low, indicating that this model can only predict about 13 percent of the variability in the data with the given variables; all other variability is likely due to factors that were not included in the analysis.

As with the first logistic model, I ran this same model, but used a covariate for *not* receiving a disposition (denoted in Table 11 by the † symbol). This predictor again cannot be run simultaneously as the variable for receiving a disposition due to collinearity. Also, regardless of if I included the disposition-received or no-disposition-received variable, the coefficients, significance levels, and standard error estimates for the other covariates remained the same. The coefficient for not receiving a disposition is the opposite of the coefficient for receiving a disposition. Consequently, not receiving a punitive disposition resulted in individuals have a 5 percent decrease in the number post-UYW arrests than the average individual in the sample.

The small sample size limits the ability of these models to explain the variability in the data and variance in the outcome variables. The estimates would likely have been stronger and the  $R^2$  more robust if the data set had a larger sample size. Other demographic, behavioral, and attitudinal data that was unavailable would have also made the findings more robust. These limitations notwithstanding, the results from each regression model cause me to reject the null hypothesis that reoffending is equally likely (for the logistic models) and that the number of subsequent arrests is unaffected (for the linear models) regardless of one's demographic characteristics and disposition treatment.

The regression estimates from the first logistic model indicate that individuals who were young at the time of their arrest, Hispanic, and



who receive a stringent disposition are more likely to reoffend than the average individual in the sample. Individuals who did not receive a stringent disposition are less likely to reoffend. The second logistic model, which analyzes the population of individuals who received a punitive disposition more closely, indicates that individuals are less likely to reoffend within one year if they were between 25 and 34 when first arrested and more likely to reoffend if they are Hispanic. The third logistic model indicates that individuals are more likely to reoffend within one year if they were between 17 and 24 at the time of their first arrest and if they are Hispanic. The linear-regression model corroborates the results from the logistic models, indicating that young Hispanic individuals who receive a stringent disposition were arrested, on average, 1.54 more times subsequent to their first UUW arrest than the average individual in the sample, while individuals who do not receive a stringent disposition are arrested about 5 percent less.

The findings about the impact of receiving or not receiving a punitive disposition at first glance seem counterintuitive, but reveal some important characteristics about the Chicago criminal-justice system. One can imagine that a Cook County judge faced with a UUW case decides whether the offender poses a threat to society and needs punishment or whether the individual is of low risk to reoffend and should be returned to society. Theoretically, if judicial discretion is used effectively individuals who are punished would be treated and hopefully deterred from future criminal involvement, while the low-risk offenders would be spared from punishment but also would be unlikely to reoffend.

The findings from these regression analyses suggest that the county judicial system is actually effective in deciding which individuals pose a threat to the community and demonstrate criminal proclivities and which are not dangerous. It would appear that individuals identified as non-threatening to society are less likely to go on and commit subsequent crimes, whereas those who are punished are much more likely to commit subsequent crimes.

On the one hand, this finding is positive. It suggests that the judicial system correctly identifies individuals who are likely to reoffend and assigns either probation or incarceration, and it spares low-risk individuals from

punitive measures, which saves corrections dollars that can be better used on higher-risk offenders. On the other hand, correctional interventions for the more at-risk offenders are ineffective at deterring future criminal involvement, and these individuals are more likely to reoffend than their low-risk counterparts. One reason this could be happening is that only 10 percent of the individuals receiving a punitive disposition were incarcerated (seven of the seventy-seven punitive cases), whereas the others received probation. It may be that the effectiveness of probation is undermined by poor probation oversight and insufficient post-prison rehabilitation. Furthermore, individuals involved with corrections are brought into closer proximity with other criminals, which can expand their criminal network and undermine any deterrent effect of stringent sanctions despite the incapacitation they experienced while incarcerated. This insufficient oversight and rehabilitation, combined with the expansion of these arrestees' criminally involved network in the community, result in an increased likelihood of reoffending.

## Policy Recommendations

**1. The Cook County criminal-justice system should maintain judicial discretion for determining which individuals should receive more stringent sentencing while also establishing a clear, consistent strategy for sanctioning Unlawful Use of Weapons cases.**

In light of research indicating that certainty of sanctioning is an effective deterrent of criminal behavior, proposed legislation in Chicago would require mandatory-minimum sentences for certain aggravated U UW arrests (see the background section). Other jurisdictions have also discussed implementing mandatory-minimum sentences for weapons offenses to indicate a harsh "no tolerance" stance on illegal weapon possession. However, mandatory-minimum policies impose a huge burden and cost on the system as they cover all individuals who have received a particular sentence, regardless of the context around the arrest. The analysis from this study indicates that not all individuals convicted of illegal weapons possession are likely to subsequently reoffend.

As a result, a mandatory-minimum policy may result in an unnecessary costs where judges are able to discern between higher-risk and lower-risk arrestees. In fact, it would appear that judges are successful at determining which offenders deserve stringent dispositions and which are low risk and do not require oversight from the Department of Corrections. By correctly identifying and sentencing dangerous individuals and sparing low-risk offenders from a punitive disposition the criminal-justice system saves money that it would otherwise spend on universal sentencing under mandatory minimums. It is important to note that these results apply *only* to the particular population in this sample, though more expansive evaluations could be conducted to see if these outcomes can be generalized to a broader population. I recommend that Cook County should maintain judicial discretion to determine which offenders merit a harsh disposition in illegal weapon-possession cases since judges are effectively differentiating between high- and low-risk offenders.

The county should, however, establish a clearer and more consistent sentencing process for offenders it believes merit a punitive disposition to ensure the county sends a clear message to deter would-be offenders from illegal gun possession. In the study sample, only 10 percent of individuals receiving a punitive disposition were incarcerated, and even those who were incarcerated received relatively light sentences. The entire population of individuals receiving either probation or incarceration was more likely to reoffend, and individuals receiving probation were more likely than those incarcerated to reoffend. These findings indicate that not enough was done to deter this population from reoffending, and that probation in particular was insufficient. If the county were to adopt a clear and consistent approach to meting out harsh dispositions (e.g., requiring that all individuals receiving a punitive disposition be incarcerated for a specified amount of time, rather than be put on probation), it would send a clearer signal that the county takes an aggressive stance on illegal gun possession.

**2. In addition to expanding the resources available to the Department of Corrections, the county should implement a probation program similar to the HOPE program and deploy the funds already provided by the state.**

The mission of the county's Adult Probation Department is to remain "committed to providing the courts with quality information and to offering viable, cost-effective sentencing and pretrial options. Through a balance of enforcement and treatment strategies, we hold offenders accountable and afford them opportunities to become productive, law-abiding citizens" (Circuit Court of Cook County, n. d.). This analysis reveals, however, that the Adult Probation Department is ineffectual in accomplishing this mission; even if opportunities to become law-abiding citizens are available, individuals who are arrested for illegal gun possession are *more* likely to continue engaging in criminal activity. Adding resources and probation officers would allow greater oversight, but the department should consider a more innovative approach than just expanding and relieving pressure from the current system. The HOPE program showed very promising results for reducing criminal behavior among probationers and could be replicated in Chicago. Developing a "behavioral triage" program that imposes short but certain sanctions in the event of parole violations would be an effective means to control recidivism in the more criminally involved group receiving dispositions.

The state has given Cook County \$2 million to implement a program similar to the HOPE program, but from all available data, no such program has been implemented. I recommend that Cook County deploy these funds using a HOPE model, which delivers swift, clear, and humane probation for those convicted of unlawful use of weapons.

**3. More research should be conducted to expand this study, including an evaluation of the effects of dispositions for other, more serious offenses and a cost-benefit analysis of implementing the first two policy recommendations.**

Before implementing these recommendations, it would be useful to extend this analysis and include a larger sample to determine if the

results found in this study were true for other types of arrests. If that were the case, then a HOPE-style probation oversight program could be implemented more broadly to have a greater impact on crime reduction. Finally, a cost-benefit analysis would determine if it is a worthwhile and feasible policy for the city to implement.

## Conclusion

Illegal gun possession and interpersonal violence with illegal guns remains a serious problem for the United States that is not adequately addressed by current public policy. Despite the decreases in murders in Chicago over the past twenty years, it remains shocking that almost 86 percent of all murders are committed with firearms and over one hundred thousand illegal guns have been recovered from the streets since 2000. One effective way for policy makers to target illegal gun access and prevent gun-related violence is via the Unlawful Use of Weapons statute. Individuals with this charge are in illegal possession of a firearm, but were not charged with Aggravated U UW or Discharge of a Firearm. Consequently, this population of individuals can be seen as potentially the next generation of criminals who demonstrate some criminal proclivities. Illegally possessing a gun can also result in the escalation of their encounters that otherwise might not have ended in violence.

Prior to this study, it was unknown if Cook County's criminal-justice approach to illegal weapon-possession cases was effectively deterring these individuals from future criminal involvement. Proposed legislation in Illinois would implement a mandatory minimum for Aggravated U UW cases, though it was also unknown to what degree this sentencing strategy would be effective. To evaluate these questions, this analysis evaluated the effect of an individual's court disposition for a U UW case on future offending and found that punitive dispositions were actually associated with an increased likelihood of offending. Though this result seems at first counterintuitive, I argue that this is because the judicial system is effective at determining which offenders pose a high risk and which do not require punitive sentencing to deter future criminal involvement. The group receiving a punitive disposition likely

has greater criminal proclivities, which is why they are more likely to maintain criminal involvement even after contact with the Department of Corrections. Conversely, the group receiving no disposition has a low level of criminal involvement and thus is unlikely to reoffend despite receiving no punishment for their UUW arrest.

There are, however, several limitations to the methodology and data set used in this analysis. I identified a study sample of individuals whose first adult arrest in Cook County was for UUW, but this does not capture juvenile arrests which are expunged from the record or arrests outside of Cook County. Many individuals whose first adult point of contact with the criminal justice system is a UUW charge likely had earlier encounters with the juvenile courts, which could explain the harsher dispositions these individuals subsequently receive for their UUW charges. For these individuals, beginning rehabilitation in adulthood may be too late to change the likelihood to reoffend, as criminal behavioral patterns may already be set.

Despite these limitations, I recommend that judicial discretion be maintained to allow judges to evaluate which offenders are in need of correctional oversight. Although the current system is successfully identifying dangerous individuals, it is not effectively treating them in a manner that deters recidivism. Rather, the weak sentencing these individuals receive (from poor probation oversight to light incarceration) sends the message that the county does not aggressively target illegal gun possession, and these individuals are far more likely to reoffend than the average person in this sample. Consequently, I recommend that the city adopt a consistent approach for harsher UUW dispositions (e.g., requiring incarceration) and pursue innovative probation oversight programs similar to the HOPE program to more effectively monitor this high-risk population. Before undertaking any policy changes, further analyses should be conducted to evaluate the benefits and costs of such a policy change. This does, however, seem to be a promising opportunity for the city to address its gun-violence problem and reduce criminal recidivism.

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## Appendix A: City of Chicago and State of Illinois UW Statutes from Original Data Request

STATUTE	DESCRIPTION	CHANGE CLASS	CHANGE TYPE	COUNT
4-144-180	Permit Req - Air/Toy Weapons	L		2
4-144-190	Replica Firearms/Pellet Guns	L		252
<b>430 ILCS 65.0/2-A-1</b>	Firearm w/o Valid FOID/Elig	A	M	156
430 ILCS 65.0/2-A-1	Possess Expired Firearm FOID	A	M	4
430 ILCS 65.0/2-A-2	Poss Ammunition - w/o Valid FOID	A	M	126
430 ILCS 65.0/3-A	Illegal Transfer Firearms	4	F	5
430 ILCS 65.0/3-B	Fail Keep Record of Transfer/Firearm	A	M	25
4-332-140	Weapons Violation Sale of Air Rifle/Toy Firearm	L		1
<b>720 ILCS 5.0/16-16-A</b>	Possession of Stolen Firearm	2	F	5
720 ILCS 5.0/21-6-A	Weapons - Unauthd Pssession/ Storage	A	M	1
720 ILCS 5.0/24.6-20-A	UUW - Weapon - Aim Laser Pointer at Officer	A	M	1
720 ILCS 5.0/24-1.1-A	UUW - Weapon - Felon, Possess/Use Firearm	3	F	712
720 ILCS 5.0/24-1.1-A	UUW - Weapon - Felon/Parole-Possess/Use Firearm Prior	2	F	82
720 ILCS 5.0/24-1.1-A	UUW - Weapon - Felon Poss/Use Firearm/Parole	2	F	41
<b>720 ILCS 5.0/24-1.1-A</b>	UUW - Weapon - Felon Poss/Use Machine Gun	X	F	2
<b>720 ILCS 5.0/24-1.2-A-1</b>	Aggr Discharge Firearm - Bldg/School	X	F	2
<b>720 ILCS 5.0/24-1.2-A-1</b>	Aggr Discharge Firearm - Occupied Bldg	1	F	9
<b>720 ILCS 5.0/24-1.2-A-2</b>	Aggr Discharge Firearm - Veh/Sch	X	F	1
<b>720 ILCS 5.0/24-1.2-A-2</b>	Aggr Discharge Firearm - Occupied Vehicle	1	F	16
<b>720 ILCS 5.0/24-1.2-A-3</b>	Aggr Discharge Firearm - Po/Fireman	X	F	2
<b>720 ILCS 5.0/24-1.2-A-7</b>	Aggr Discharge Firearm - Sch Employee/School	X	F	2
<b>720 ILCS 5.0/24-1.5-A</b>	Reckless Disch Firearm - Endanger	4	F	22
<b>720 ILCS 5.0/24-1.5-B</b>	Reckless Discharge Firearm - Passenger	4	F	3
<b>720 ILCS 5.0/24-1.6-A-1</b>	UUW - Weapon - Agg./Veh. or Concealed	4	F	295
<b>720 ILCS 5.0/24-1.6-A-2</b>	UUW - Weapon - Agg./Public St./Alley/Land	4	F	176
<b>720 ILCS 5.0/24-1.6-A-2</b>	UUW - Agg UUW/Person/Vehicle/Previous Conviction	2	F	51
<b>720 ILCS 5.0/24-1.6-A-3-A</b>	UUW - Weapon-Agg/Uncased/Loaded/Accessible	4	F	133

STATUTE	DESCRIPTION	CHARGE CLASS	CHARGE TYPE	COUNT
<b>720 ILCS 5.0/24-1.6-A-3-B</b>	Agg UUW - Uncased, Unloaded, Access 1St Offns	4	F	27
<b>720 ILCS 5.0/24-1.6-A-3-C</b>	Agg UUW - No FOID 1St Offns	4	F	7
<b>720 ILCS 5.0/24-1.6-A-3-C</b>	UUW - Weapon - No Foid	4	F	30
<b>720 ILCS 5.0/24-1.6-A-3-D</b>	Agg UUW - Minor 1St Offns	4	F	42
<b>720 ILCS 5.0/24-1.6-A-3-E</b>	Agg UUW - Viol Cann Contr Act 1St Offns	4	F	7
<b>720 ILCS 5.0/24-1.6-A-3-F</b>	UUW - Weapon - Agg Unlawful Use of Weapon by Gang Member			20
<b>720 ILCS 5.0/24-1.6-A-3-I</b>	Agg UUW - Under 21 Handgun 1st Offns	4	F	119
<b>720 ILCS 5.0/24-1.6-A-3-I</b>	UUW - Weapon - Person Under 21 Years Of Age	4	F	48
720 ILCS 5.0/24-1.7-A	Armed Habitual Criminal	X	F	16
720 ILCS 5.0/24-1-A-1	UUW - Weapon - Sale-Use Blackjack/School/Park	4	F	1
<b>720 ILCS 5.0/24-1-A-10</b>	UUW - Weapon - Pub HS/Park/School or 2nd Offense	3	F	12
<b>720 ILCS 5.0/24-1-A-10</b>	UUW - Weapon - Public Street/Alley/Lands	A	M	39
720 ILCS 5.0/24-1-A-2	Knife/Gas w/Intent Sch/Public	4	F	9
720 ILCS 5.0/24-1-A-2	UUW - Weapon - Carry w/ Intent Knife	A	M	42
720 ILCS 5.0/24-1-A-2	UUW - Weapon - Knife/Gas w/Intent Cert Place	4	F	1
720 ILCS 5.0/24-1-A-3	UUW - Weapon - Tear Gas/Liquid Gas	A	M	4
<b>720 ILCS 5.0/24-1-A-4</b>	UUW - Weapon - Carry/Possess Firearm/2nd &Subq	3	F	8
<b>720 ILCS 5.0/24-1-A-4</b>	UUW - Weapon - Carry/Possess Firearm/School/Park	3	F	37
<b>720 ILCS 5.0/24-1-A-4</b>	UUW - Weapon - Vehicle/Concealed on Person	A	M	118
<b>720 ILCS 5.0/24-1-A-4</b>	UUW - Carry/Possess Firearm/1st	A	M	9
720 ILCS 5.0/24-1-A-5	UUW - Weapon - Set Spring Gun	A	M	2
<b>720 ILCS 5.0/24-1-A-7-I</b>	UUW - Weapon - Machine Gun /Automatic Weapon	2	F	5
<b>720 ILCS 5.0/24-1-A-7-II</b>	UUW - Weapon - Rifle <16" - Shotgun <18"	3	F	32
<b>720 ILCS 5.0/24-1-A-7-II</b>	UUW - Weapon - UUW/Rifle <16" Shotgun <18"/School/Park	2	F	1

\*NOTE: I included statutes highlighted in **BOLD** in my sample, though not all were ultimately included in the final sample. If the individuals arrested on these charges did not qualify based on another parameter of the study (i.e., age, first offense, state ordinance, etc.) then the charge would not appear in Table 2.

**Appendix A: continued**

STATUTE	DESCRIPTION	CHARGE CLASS	CHARGE TYPE	COUNT
720 ILCS 5.0/24-1-A-7-III	UUW - Weapon - Bomb/Grenade/Molotov Cocktail	3	F	5
720 ILCS 5.0/24-1-A-8	UUW - Weapon - Bar/Public Gath/ (License/Admn)	4	F	2
720 ILCS 5.0/24-1-A-9	UUW - Weapon - Poss/Carry/Conceal Weapon - Sch/Pb HS/Prk	3	F	6
720 ILCS 5.0/24-1-A-9	UUW - Weapon - Possess/Carry /Conceal Weapon	4	F	130
720 ILCS 5.0/24-1-A-9	UUW - Weapon - Carry /Possess Concealed Weapon/n	3	F	4
720 ILCS 5.0/24-3.1-A-1	UUW - Unlawful Possess Firearm <18	A	M	20
720 ILCS 5.0/24-3.1-A-1	UUW - Unlawful Possess Handgun	4	F	52
720 ILCS 5.0/24-3.1-A-2	UUW - Unlawful Possess Firearm/Delq <21	A	M	5
720 ILCS 5.0/24-3.1-A-2	UUW - Unlawful Possess Handgun	4	F	13
720 ILCS 5.0/24-3.1-A-6	UUW - Unlawful Possess Firearm/ Explosive Bullet	A	M	2
720 ILCS 5.0/24-3.5-C	Purch 1 Firearm/False Info	2	F	1
720 ILCS 5.0/24-3.5-C	Purch 6+ Firearms/False Info	X	F	3
720 ILCS 5.0/24-3A-A	Gunrunning 1	F		3
720 ILCS 5.0/24-3-A-K	Sell Firearm/No Valid FOID	4	F	2
720 ILCS 5.0/24-5-A	Deface Firearm ID Markings	2	F	3
720 ILCS 5.0/24-5-B	Poss Firearm w/ Defaced Serial Number	3	F	11
720 ILCS 5.0/24-9-A	Allow Minor Access to Firearm	C	M	1
720 ILCS 5/24-1-A-1	UUW - Weapon - Blackjack/Knife	A	M	208
720 ILCS 535.0/3	Possession/Discharging Air Rifle	P	M	54
720 ILCS 545.0/1	Board Aircraft with Weapon	4	F	3
720 ILCS 545/1	Boarding Aircraft w/ Weapon	A	M	2
<b>8-20-010</b>	Unlawful to Carry Weapons	L		4
8-20-040	Registration of Firearms	L		75
8-20-050	Unregisterable Firearms	L		18
8-20-050(A)	Weapons Violation Poss Sawd-Off Shotgun	L		2
8-20-090(A)	Weapons Violation Poss Firearm Prior Reg Rcpt	L		1
8-20-160	Possession of Ammunition	L		9
<b>8-20-170(C)</b>	Weapons Violation Unlawful Loan Firearm/Ammo	L		1

STATUTE	DESCRIPTION	CHARGE CLASS	CHARGE TYPE	COUNT
<b>8-24-010</b>	Weapons Violation Unlawful Use Handgun	L		12
<b>8-24-020</b>	UUW - Carry Dangerous Weapons	L		207
8-24-021	Sale, Display and Use of Utility Knives	L		2
8-24-026	Weapons Violation Poss Ammunition	L		6
8-24-040	Discharging Toy Firearms	L		74

\*NOTE: I included statutes highlighted in **BOLD** in my sample, though not all were ultimately included in the final sample. If the individuals arrested on these charges did not qualify based on another parameter of the study (i.e., age, first offense, state ordinance, etc.) then the charge would not appear in Table 2.

## Appendix B: Logistic-Regression Estimates for Reoffending, All Predictor Variables

PREDICTOR VARIABLE	CONTROLS FOR	ESTIMATED LIKELIHOOD (Standard Error)	
Hispanic = 1 if Hispanic (=0 if else)	Differences in reoffending between Hispanics and others	6.91**	(6.29)
Disposition Received = 1 if incarceration or probation (=0 if else)	Effects of a punitive disposition disposition on reoffending	2.26*	(1.02)
† Disposition Not Received = 1 if no punitive disposition (=0 if disposition received)*	Effects of not receiving punitive disposition on reoffending	0.44*	(0.20)
Age 17–24 = 1 if individual was 17–24 (=0 else)	Effects of age on reoffending	4.31*	(3.76)
Age 25–34 = 1 if individual was 25–34 (=0 else)	Effects of age on reoffending	0.79	(0.74)
Age 35–49 = 1 if individual was 35–49 (=0 Else)	Effects of age on reoffending	3.71	(3.49)
Sex = 1 if individual was male (=0 if female)	Differences in reoffending between males and females	1.57	(1.41)
Charge type = 1 if felony (=0 if misdemeanor)	Differences in severity between charges	0.53	(0.25)
Black = 1 if black (=0 if else)	Differences in reoffending between blacks and others	2.56	(2.14)
N			139
Adjusted R <sup>2</sup>			0.143

\* p is less than .1 \*\* p is less than .05 \*\*\* p is less than .01

\*NOTE: When observing this table, it should be either with the "Hispanic," "disposition received," "age 17–24," "age 24–34," "age 35–49," "sex," "charge type," and "black" controls or with the "Hispanic," "disposition not received," "age 17–24," "age 24–34," "age 35–49," "sex," "charge type," and "black" controls. See analysis section for a full explanation.

## Appendix C: Linear-Regression Estimates For Reoffending, All Predictor Variables

PREDICTOR VARIABLE	CONTROLS FOR	ESTIMATED LIKELIHOOD <i>(Standard Error)</i>	
Disposition received = 1 if incarceration or probation (=0 If else)	Effects of a punitive disposition on reoffending	0.41**	(0.20)
† Disposition not received = 1 if no punitive disposition (=0 If disposition received)*	Effects of not receiving punitive disposition on reoffending	-0.41**	(0.20)
Age 17–24 = 1 if individual was 17–24 (=0 Else)	Effects of age on reoffending	0.78**	(0.36)
Hispanic = 1 if hispanic (=0 If else)	Differences in reoffending between hispanics and others	0.65*	(0.35)
Age 25–34 = 1 if individual was 25–34 (=0 Else)	Effects of age on reoffending	0.05	(0.36)
Age 35–49 = 1 if individual was 35–49 (=0 Else)	Effects of age on reoffending	0.47	(0.39)
Sex = 1 if individual was male (=0 if female)	Differences in reoffending between males and females	0.24	(0.41)
Charge type = 1 if felony (=0 if misdemeanor)	Differences in severity between charges	-0.11	(0.22)
Black = 1 if black (=0 if else)	Differences in reoffending between blacks and others	0.09	(0.29)
N			139
Adjusted R <sup>2</sup>			0.152

\*NOTE: When observing this table, it should be either with the "disposition received," "age 17–24," "Hispanic," "age 24–34," "age 35–49," "sex," "charge type," and "black" controls or with the "disposition not received," "age 17–24," "Hispanic," "age 24–34," "age 35–49," "sex," "charge type," and "black" controls. See analysis section for a full explanation.