

Examination of Youth Violence in Baltimore City 2002-2007



A Report from The Office of Epidemiology and Planning and
The Office of Youth Violence Prevention
Baltimore City Health Department

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ABOUT THE OFFICE OF EPIDEMIOLOGY AND PLANNING

This is an office at the Baltimore City Health Department that oversees the collection and analysis of data to assist with program planning, evaluation, and policy development. It is led by Caroline Fichtenberg, Ph.D., an epidemiologist with a joint appointment at the Johns Hopkins Bloomberg School of Public Health. The office reports to the Commissioner of Health.

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EXECUTIVE SUMMARY

Youth violence is a serious issue facing Baltimore City and it will remain at the forefront of discussions about prevention, intervention, and treatment efforts because violence carries considerable financial and societal costs.¹ Using data from the Baltimore City Department of Social Services, Baltimore Police Department, Baltimore City Public Schools, Baltimore City State's Attorney's Office, Baltimore City Circuit Court (Family and Juvenile Court), and the Maryland Department of Juvenile Services, this report takes a retrospective look at interactions in these child-serving administrative agencies among youth victims and perpetrators of violence in Baltimore City from 2002 to 2007.

- **On average, 27 youth aged 0 to 17 were victims of homicide, 82 youth aged 0 to 17 were victims of a non-fatal shooting, and 30 youth aged 0 to 17 were arrested and convicted or adjudicated delinquent for murder or attempted murder each year from 2002 to 2007.** The number of homicide victims ranged from 13 to 35 per year; and the number of non-fatal shooting victims ranged from 74 to 101.
- **Ninety-nine percent of the youth victims and perpetrators of violence in Baltimore for whom data were available had a record indicating need in the areas of social services, education, or criminal justice in the time period preceding their shooting, death, or crime.** These youth were involved with the Department of Social Services for an allegation of abuse or neglect, or because their family received general services; they were enrolled in a Baltimore City Public School and were chronically truant, over age by 2 or more years, or had a history of suspension or expulsion; or they were referred to the Department of Juvenile Services.
 - One percent of the study population had no history of interaction with child-serving administrative agencies during that same time period.
- **Eighty-eight percent of the youth victims and perpetrators of violence had contact with the Department of Social Services for general services or for child protection services related to an abuse or neglect allegation.** Forty-eight percent of the youth had contact with CPS for allegations of abuse or neglect.
 - A social services history comparison between victims of violence and perpetrators of violence yielded no statistically significant differences.
 - Youth victims and perpetrators of violence may be as much as 3 times as likely to have an allegation of abuse or neglect reported to CPS, compared to youth in Baltimore City who were not victims or perpetrators of violence.
- **Ninety-two percent of the youth victims and perpetrators of violence with an enrollment record were chronically truant in at least one academic year between the years 1999-2000**

¹ Department of Health and Human Services. (1999). Youth violence: A report of the surgeon general. Retrieved April 9, 2009, from <http://download.ncadi.samhsa.gov/ken/pdf/surgeon/SG.pdf>

and 2007-2008. Sixty-two percent of the study youth had a history of out of school suspension and/or expulsion; and 38 percent of the youth were over age by two or more years in an academic year during that same time period.

- Perpetrators' were more likely to have, on average, a lower percent attendance per academic year. Perpetrators were also significantly more likely to be two or more years over age in a given academic year in comparison to victims. The two groups, however, did not differ significantly when looking at their records of suspension and expulsion.
- Chronic truancy in an academic year during grades 1 through 5 was common among youth victims and perpetrators of violence and in the cohorts of youth followed by the Baltimore Education Research Consortium (BERC), who were taken to represent typical youth in Baltimore City (youth who were not victims or perpetrators).
 - For older youth who were in grades 6 through 10, youth victims and perpetrators were more likely to be chronically truant in comparison to BERC's 6th grade cohort.
 - Over age and suspension and expulsion data for typical youth in Baltimore were not available. Consequently, a comparison to youth victims and perpetrators of violence was not conducted.
- **Seventy-three percent of the youth victims and perpetrators of violence had history of referral to the DJS.** Fifty-five percent of the study population was placed under DJS supervision at some point prior to the shooting, death, or crime.
 - A comparison between the complaint records for youth victims of violence and perpetrators of violence revealed that perpetrators had significantly more complaints to DJS than victims. Perpetrators also had a significantly larger percentage of complaints that were drug-related offenses in comparison to victims.
 - We estimated that 33 percent of typical Baltimore City youth (youth who have not been victims or perpetrators of violence) had a history of referral to the DJS at some point prior to turning 18 years of age. In comparison, 73 percent of the study population of youth victims and perpetrators of violence had a history of referral with the DJS.
- **Twelve percent of the youth victims and perpetrators of violence had an adult arrest record with the Baltimore Police Department.** For the perpetrators, this does not include the arrest for murder or attempted murder, which resulted in their inclusion in the study population.

Youth violence is a serious issue facing Baltimore City and it will remain at the forefront of discussions about prevention, intervention, and treatment efforts because violence carries considerable financial and societal costs.² In order to inform planning and prevention efforts, Baltimore City needs to pull together data from each child-serving administrative agency that works with at risk youth. This will aid in the development of a more complete picture of the youths' involvement with the child-serving agencies in the years preceding their shooting, death, or crime. Stakeholders, equipped with a better understanding of the factors that contribute to a youth's risk for involvement in violence, may develop and implement aggressive and multifaceted approaches to identify these youth.

SCOPE OF PROBLEM

Baltimore has made progress in recent years in its fight against violent crime, reducing homicides to their lowest point since 1970. Despite this achievement, data released in 2009 showed that Baltimore City's homicide rate ranked 2nd highest in the nation among cities with a population over 500,000. In Baltimore City, all race/ethnicity groups had higher homicide rates than their counterparts in the State of Maryland in 2007 (Figure 1).²

In 2007, homicide was the fourth leading cause of death among Baltimore City residents and the leading cause of death among Baltimore City residents age 15 to 34 years.³ When comparing leading causes of death in 2007 for residents of Maryland, homicide was not in the top 10 leading causes of death among residents of all ages, although it was the leading cause of death among residents age 15 to 34 years.⁴

Figure 1:

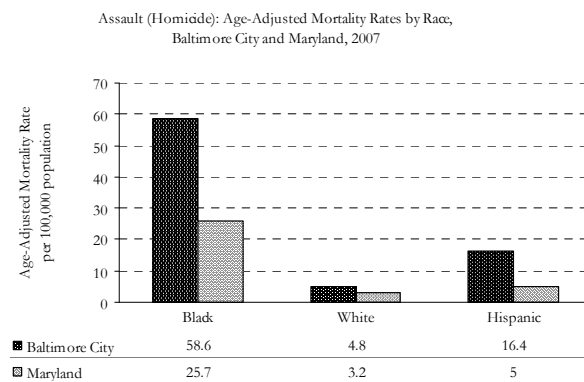
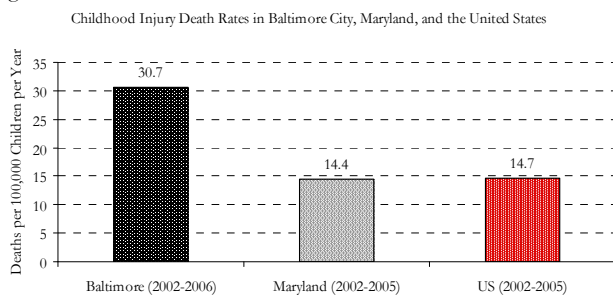


Figure 2:



In Baltimore City, youth ages 1 to 17 years suffered fatal injuries about twice as frequently as in Maryland and the United States as a whole (Figure 2).⁵ This disparity in the death rates is largely due to the high rate of homicide among Baltimore youth. The juvenile homicide rate (less than 18 years of age) in Baltimore City for the years 2002 to

² Department of Health and Human Services. (1999). Youth violence: A report of the surgeon general. Retrieved April 9, 2009, from <http://download.ncadi.samhsa.gov/ken/pdf/surgeon/SG.pdf>

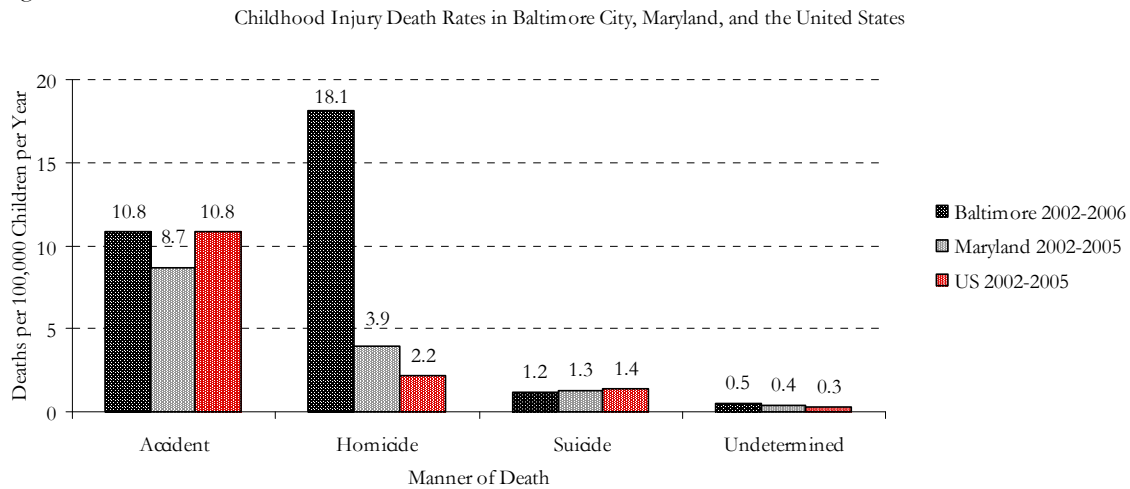
³ Baltimore City Health Department analysis of 2007 mortality data from the Maryland Vital Statistics Administration.

⁴ Vital Statistics Administration Division of Health Statistics, Maryland Department of Health and Mental Hygiene. Maryland Vital Statistics Annual Report 2007. Baltimore City, MD: Maryland Department of Health and Mental Hygiene. November 2008.

⁵ Office of Epidemiology and Planning, Baltimore City Health Department. Childhood Injury Deaths in Baltimore City, 2002-2006. Baltimore City, MD: Baltimore City Health Department. February 2008.

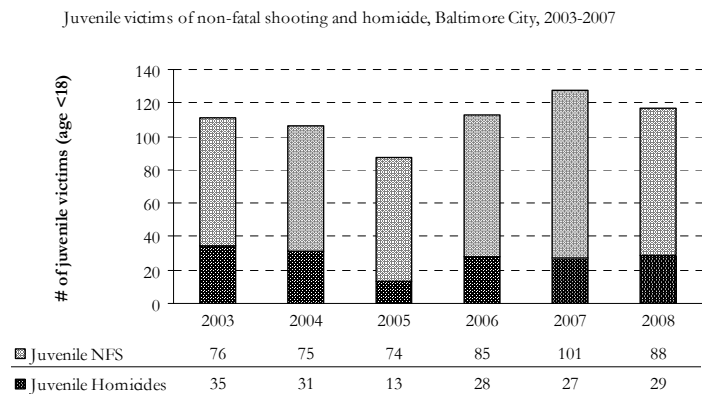
2006, was almost five times higher than the Maryland rate, and over eight times higher than the national rate for comparable periods of time (Figure 3).⁴

Figure 3:



The number of juvenile homicide victims between the years 2003 and 2008 varied widely, ranging from a high of 35 victims in 2003 to a remarkable low of 13 victims in 2005 (Figure 4).⁶ However, the decline seen in 2005 was not sustained, as there have been, on average, 28 juvenile homicides each year since.

Figure 4:



EXAMINING YOUTH VIOLENCE IN BALTIMORE CITY

This project was initiated in response to discussions that took place at the Child Fatality Review (CFR), a monthly forum in which a multi-disciplinary team meets to discuss preventable deaths of Baltimore City children younger than 18 years old. Through these case-by-case reviews, the CFR discusses the children’s interactions with child-serving administrative agencies and identifies factors that contributed to their deaths in order to develop recommendations for preventing similar deaths in the future.

Baltimore City’s CFR team members represent many city agencies, including Baltimore City Health Department, Office of the Chief Medical Examiner, Baltimore Police Department, Baltimore

⁶ Baltimore City Health Department analysis of 2003-2008 juvenile non-fatal shooting and homicide data from the Baltimore Police Department.

City Fire Department, Baltimore City Department of Social Services, Maryland Department of Juvenile Services, Baltimore City State's Attorney's Office, and Baltimore City Public School System. The team also includes experts in child health advocacy.

In the CFR, the team examines the youths' involvement in the child-serving agencies by having a representative from each agency describe the nature of the youths' involvement with their agency. If the agency reported that there was no record of a youth in their data system, it was assumed that the youth had no previous involvement with that agency. Often times the case reviews cover superficial elements in the youths' lives because the team has a limited amount of time to discuss more than one victim and his/her contacts with the child-serving administrative agencies in the city.

Given the need to better understand the life trajectories of youth victims of homicide, the Baltimore City Health Department's Office of Youth Violence Prevention proposed a project that would examine in detail youth victims' interactions and past histories with child-serving administrative agencies in the years, months, and days leading up to their deaths. An area of focus of the project was to distinguish characteristics of these youth in terms of their social service histories, school backgrounds, and criminal justice histories.

The goals of the project were three-fold:

- To describe the trajectories of youth involved in violence in Baltimore City
- To identify markers of youth who are at risk for involvement in violence
- To compare the characteristics of youth victims and perpetrators of violence in order to inform early intervention efforts and to help better coordinate services for at risk youth.

METHODS

STUDY POPULATION

To understand the trajectory of youth violence in Baltimore, both victims of violence and perpetrators of violence were included in the study population. Victims of violence consisted of victims of homicide or non-fatal shooting. Perpetrators of violence included youth who caused the death or near fatality of another person. Youth were identified as victims or perpetrators of violence with assistance from the Baltimore Police Department and the Baltimore City State's Attorney's Office. The total number of youth in the study population was 661; of which 115 were victims of homicide, 398 were victims of a non-fatal shooting, and 148 were perpetrators of a violent crime.

Any male or female less than 18 years of age residing in Baltimore City at the time of the incident, who was a victim of homicide or a non-fatal shooting between January 1, 2003 and December 31, 2007 was included in the group of victims. Not included in the group of victims was any youth who was the victim of a child-abuse-related homicide or child-abuse-related non-fatal shooting as determined by the Baltimore Police Department. The data sources used were the BPD's juvenile shooting and homicide records, which are distributed weekly by a member of the BPD.

Any male or female less than 18 years of age residing in Baltimore City at the time of the crime, who was convicted of a crime in the criminal court, or adjudicated in juvenile court as having committed a delinquent act that caused the death or near fatality of another person, between January

1, 2002 and December 31, 2006 was included in the group of perpetrators. The data sources used were the Baltimore Police Department's shooting and homicide arrest records (to identify youth arrested on shooting or homicide charges), and the State's Attorney's Office's court case management databases (to determine the outcome of the court case).

DATA SOURCES

In February 2005, Delegate Salima Siler Marriott of District 40 and the Baltimore City Health Department sponsored House Bill 900 (2005) requesting full disclosure of a child's confidential record to the Baltimore City Health Department by the Judiciary, the Department of Juvenile Services, the Department of Human Resources, the Department of State Police, and the Department of Public Safety and Correctional Services. The legislature overrode former Governor Robert Ehrlich's veto and the bill became part of Maryland law during the 2006 session.

In May 2008, the bill was renewed and expanded to include both victims and perpetrators of violence. Referred to as House Bill 1017 of the Maryland Annotated Code, the bill provides the Baltimore City Health Department with access to administrative records from the abovementioned city and state agencies for any youth the BCHD has provided treatment or care, any youth who has been a victim of a crime of violence and resides in Baltimore City, or any youth who has been adjudicated as having committed a delinquent act that caused the death or near fatality of another person.

Through the legislation and memorandums of understanding, the BCHD requested and obtained secondary, individual-level data in the form of administrative records from the following child-serving agencies: Baltimore City Department of Social Services (DSS), Baltimore Police Department (BCPD), Baltimore City Public School System (BCPSS), Baltimore City Circuit Court (Family and Juvenile Court), and the Department of Juvenile Services (DJS). (See Appendix A for a description of the administrative records requested.)

DATA MANAGEMENT AND ANALYSIS

Data collection

This project was conducted using secondary individual-level data in the form of administrative records from the Baltimore City Department of Social Services (DSS), Baltimore Police Department (BPD), Baltimore City Public Schools (BCPS), Baltimore City State's Attorney's Office (SAO), Baltimore City Circuit Court (Family and Juvenile Court), and the Maryland Department of Juvenile Services (DJS). To request records, the BCHD submitted the names and dates of birth of the study population to the aforementioned city and state child-serving administrative agencies.

Complete records for the study population were not always available because of policies on archiving and expunging records, or because of changes that were made to data management and storage systems. This was the case for records requested from the DSS and BCPSS.

From the DSS data, it was determined that 88 percent (583 youth) of the study youth had previous interactions with DSS. Of these youth, 48 percent (320 youth) had a history with CPS for

an allegation of abuse or neglect, and 40 percent (263 youth) had a non-CPS history (e.g. general services received by youth and family including food stamps, temporary cash assistance, energy assistance, child care assistance, etc.). (See Appendix A for a description of the sample population's history with the DSS.)

Information regarding the types of general services received by the 263 youth with non-CPS histories was not available. Among the 320 youth with CPS histories, "181 Reports" —reports filed following an investigation for an allegation of physical abuse, neglect, or sexual abuse—were available for 133 of them—or 20 percent of the total study population. For the remaining 187 youth with CPS histories, detailed information on the nature of their involvement with CPS was not available.

Given DSS's policy of archiving and expunging records, the number of indicated investigations may be high. If an investigation is ruled out, the record is to be expunged within 90 days; and if an investigation is unsubstantiated, the record is to be expunged within 5 years. Indicated investigations are maintained, and because of this, the percent of investigations indicated in the sample population is high relative to the number of ruled-out or unsubstantiated investigations.

The BCPSS Department of Research, Evaluation, Assessment, and Accountability provided attendance and enrollment data for school years 1999-2000 to 2007-2008 in the form of A-Files, which are the final set of files sent annually by the BCPSS to the State of Maryland. Four-hundred ninety-five youth were matched in the school data system called SASSI; of those youth, 82 percent (405 youth) were victims of violence and 22 percent (90 youth) were perpetrators of violence. Because the BCPSS changed the way in which they stored attendance and enrollment records, the earliest school year for which data are available is 1999-2000.. There were also limitations in the years of data available for suspension and expulsion records, with data going back only to the 2001-2002 school year.

Data management

When possible, data were provided in an electronic format. When data were not received in electronic format, a member of the BCHD data team entered the paper records into a Microsoft Access database.

A unique identifier (Id) was assigned to each youth included in the study population to allow the BCHD team to de-identify the data. Upon receipt of the individual records, the BCHD de-identified the data by assigning the unique Ids and removing all identifying information, which consisted of first and last names and dates of birth. The BCHD team then created four separate datasets to represent the DSS, BPD, BCPS, and DJS data. Unique Ids were used because the administrative records were not received at the same time, and by assigning an Id, the data could be stripped of identifying information while preserving the ability to merge additional data as they arrived.

There were 13 duplicate entries among the victims and perpetrators of violence. Ten youth were twice the victims of a non-fatal shooting, and for this group, the analysis focused on the time period preceding the first non-fatal shooting. Two youth were first victims of non-fatal shootings, and then a period of time later, they were homicide victims. They were categorized as homicide

victims, and the analysis was based on the time period leading up to the homicide. Lastly, one youth was a non-fatal shooting victim and a perpetrator of violence. The incidents occurred on consecutive data, so the youth was categorized as a non-fatal shooting victim, and the analysis was based on the time period preceding that incident.

Data analysis

Basic descriptive analyses were done to determine the proportions of youth with social services histories, school histories, and criminal justice histories, as well as the nature of the youths’ previous involvement with the aforementioned child-serving administrative agencies in the years, months, and days preceding their shooting, death, or crime. Records with dates following the date of the shooting, death, or crime, were not included in the analyses because of the focus on early intervention and the time period leading up to the incident.

Throughout the analyses of administrative records, no significant differences were yielded between the social services histories, school histories, or criminal justice histories of victims of a non-fatal shooting and victims of homicide. Therefore in this report, the two groups are combined and referred to as victims.

RESULTS

A DESCRIPTIVE LOOK AT THE VICTIMS AND PERPETRATORS OF VIOLENCE

Table 1 summarizes basic demographic and descriptive traits of the youth victims and perpetrators of violence. Of the 661 youth in the study population, over three quarters (77.6 percent) were victims of a homicide or a non-fatal shooting, while the remaining youth were perpetrators of violence (22.3 percent).

Approximately 90 percent of the youth victims and perpetrators were male, and roughly 97 percent were Black or African American. The mean age at the time of the shooting or death for victims, and crime for perpetrators, was around 16 years (SD = 1.1) and ranged from 1.2 years to 17.9 years (Table 1).

TABLE 1: Descriptive look at youth victims or perpetrators of violence in Baltimore City between the years 2002 and 2007

	Victims: Non-fatal shooting & homicide	Perpetrators	Combined: Victims & Perpetrators
Number	513	148	661
Time period	2003-2007	2002-2006	2002-2007
Sex			
Male	88% (451)	97% (143)	90% (594)
Female	12% (62)	3% (5)	10% (67)
Race			
Black African/American	97% (496)	96% (142)	97% (638)
Hispanic/Latino	1% (7)	1% (2)	1% (9)
White/Caucasian	2% (10)	3% (4)	2% (14)
Age at time of incident	16 yrs (2.3) 1.2-17.9	16.6 yrs (1.1) 13.5-17.9	16.1 yrs (1.1) 1.2-17.9

INVOLVEMENT WITH CHILD-SERVING ADMINISTRATIVE AGENCIES IN BALTIMORE CITY

Involvement with the child-serving administrative agencies in Baltimore is a common experience among youth victims and perpetrators of violence. Approximately 99 percent of the study population had a history of involvement — confirmed through the delivery of either a paper record or an electronic record to the Baltimore City Health Department — with one or more of the child-serving administrative agencies. These youth were involved with the DSS for an allegation of abuse or neglect or because their family received general services; they were enrolled in a BCPS and were chronically truant, were over age by 2 or more years, or had a history of suspension or expulsion; or they were referred to the DJS. One percent of the population had no producible record or history with the child-serving administrative agencies (Table 2).

Eighty-eight percent of the youth victims and perpetrators of violence interacted with DSS. Forty-eight percent were involved with CPS for an allegation of abuse or neglect, and 40 percent were involved with DSS for non-CPS general services. The youth with DSS non-CPS histories did not have CPS involvement with DSS; however, the youth and their families with CPS histories may have received DSS general services in addition, though this information was not provided to the Health Department.

Close to 75 percent of the youth were enrolled in a Baltimore City public school between the years 1999 and 2007. Of these youth, 38 percent were two or more years over age, 92 percent were chronically truant, and 62 percent had a history of suspension or expulsion.

TABLE 2: Number and percent of youth victims and perpetrators of violence having records of documenting interactions with the child-serving administrative agencies of Baltimore City in the years leading up to their shooting, death, or crime

	Victims: Non-fatal shooting & homicide (n= 513)	Perpetrators (n= 148)	Combined: Victims & Perpetrators (n= 661)
Record of agency involvement in 1 more city/state agencies: DSS, BCPS, BPD, DJS ^a	99% (399)	99% (89)	99% (488)
Enrolled in a BCP school between 1999-2007	79% (405)	61% (90)	75% (495)
2 or more years over age in a given school year	35% (142)	51% (46)	38% (188)
1 or more years over age in a given school year	71% (287)	79% (71)	72% (358)
Chronically truant in a given school year	91% (370)	96% (86)	92% (456)
History of suspension and/or expulsion	64% (258)	57% (51)	62% (309)
Social Services history	88% (452)	89% (131)	88% (583)
Subject of a DSS CPS report ^b	49% (251)	47% (69)	48% (320)
DSS non-CPS history	31% (201)	42% (62)	40% (263)
Criminal justice history	71% (366)	86% (128)	75% (494)
Referred to DJS	70% (361)	84% (124)	73% (485)
Under DJS supervision	51% (264)	67% (99)	55% (363)
Arrested as an adult	9% (47)	21% (31)	12% (78)
No record of involvement in a city/state agency	1% (6)	1% (1)	1% (7)

Note: (1) All calculations include the 8 youth <5 yrs of age who do not have the chance to be involved with all agencies; (2) Denominator for the school history indicators only include those youth with an enrollment record: Victims, n= 405, Perpetrators, n= 90, and combined: Victim & Perpetrator, n = 495.

^a Calculated for only those youth with an enrollment record in a BCPSS during the school years 1999-2000 and 2007-2008.

^b Includes youth with electronic records, records outside Baltimore City jurisdiction, pending records, records expunged according to statute, and records provided to BCHD

Seventy-five percent of the youth in the study population were involved in the criminal justice system, 73 percent were referred to the DJS, and 55 percent were under DJS supervision at a time preceding their shooting, death, or crime (Table 2).

AGE AT TIME OF INVOLVEMENT WITH CHILD-SERVING ADMINISTRATIVE AGENCIES

Youth victims and perpetrators of violence interacted with the child-serving administrative agencies in Baltimore at a range of ages, as demonstrated in Table 3.

The mean age at which the youth were victims or perpetrators of violence was 16.1 years (SD = 2.1). There were several years between when the shooting, death, or crime took place and the youths’ first contact with the DSS, BCPS, or DJS occurred.

If the youth interacted with the DSS because of a report made to CPS for an allegation of abuse or neglect, the interactions occurred, on average, around age 6.6 years (SD = 4.6), with a range from 0 to 17.5 years.

For youth enrolled in a BCPS who exhibited behavioral problems in the classroom, the mean age when they received their first out-of-school suspension or expulsion was 13.3 years (SD = 1.8), with a range from 6.8 to 17.7 years.

For youth involved in the juvenile criminal justice system, the mean age when first referred to the DJS was 13.6 years (SD = 1.8), with a range from 7.8 to 17.8 years. For youth with at least one referral who were placed on probation or aftercare by the DJS, the average age when first placed under supervision was 14.5 years (SD = 1.5), with a range from 10.1 to 17.6 years.

Finally, for the youth who were arrested by the Baltimore Police Department on an adult criminal charge, the mean age when this first arrest occurred was 16.6 years (SD = 0.8), with a range from 14.1 to 18.7 years.

TABLE 3: Mean age at time of first record of involvement with the child serving agencies in Baltimore City for youth victims and perpetrators of violence (Mean, SD, Range)

	Victims (n= 513)	Perpetrators (n= 148)	Combined: Victims & Perpetrators (n= 661)
Enrolled in school	<= 5 years	<= 5 years	<= 5 years
Involved with DSS for alleged abuse or neglect	6.7 years (4.7) 0-16.8	6.2 years (4.3) 0.3-17.5	6.6 years (4.6) 0-17.5
First record of suspension or expulsion	13.2 years (1.8) 6.8-17.7	13.8 years (1.2) 10.5-16.7	13.3 years (1.8) 6.8-17.7
Referred to DJS	13.6 years (1.8) 7.8-17.8	13.6 years (1.8) 8.5-17.6	13.6 years (1.8) 7.8-17.8
Placed on probation or aftercare	14.5 years (1.5) 10.5-17.6	14.5 years (1.5) 10.1-17.1	14.5 years (1.5) 10.1-17.6
Arrested as an adult	16.6 years (0.7) 14.5-17.7	16.6 years (1) 14.1-18.7	16.6 years (0.8) 14.1-18.7
Victim or perpetrator of violence	16 years (2.3) 1.2-17.9	16.5 years (1.1) 13.5-17.9	16.1 years (2.1) 1.2-17.9

Includes 8 youth <5 yrs of age who do not have the chance to be involved with all agencies

IN-DEPTH EXAMINATION OF YOUTH VICTIMS AND PERPETRATORS OF VIOLENCE AND THEIR INTERACTIONS WITH THE CHILD-SERVING AGENCIES IN BALTIMORE CITY: BY AGENCY

Baltimore City Department of Social Services:

Trends in social services histories among youth victims and perpetrators of violence

Tables 4 and 5 present the percentage of youth with given CPS histories by age among the 133 youth victims and perpetrators of violence with a CPS history and a '181 Report' available for review by the Health Department. Among these youth, over 30 percent had an allegation of *abuse or neglect* by age 3 years. By age 6 years, over 60 percent had an allegation of abuse or neglect, and close to 100 percent of the youth victims and perpetrators had an allegation of abuse or neglect by age 14 years (Table 4).

Allegations of *neglect* were the most common type of report filed with CPS across all age groups. Among the 133 youth with a CPS history and a record available for review by the Health Department, 26 percent had an allegation of neglect reported by age 3 years. By age 6 years, 47 percent of the youth had an allegation of neglect reported, and 65 percent had an allegation of neglect reported by age 10 years (Table 4).

Allegations of physical *abuse* were reported to CPS much less frequently relative allegations of neglect. Among the 133 youth with a CPS history and a record available for review by the Health Department, 8 percent had an allegation of physical abuse reported to CPS by age 3 years. By age 6 years, 17 percent of youth had an allegation of physical abuse reported, and almost 25 percent had an allegation of physical abuse reported by age 10 years (Table 4).

Among these same 133 youth, the mean number of abuse or neglect investigations per youth in the years prior to the shooting, death, or crime was 1.6 (SD = 1.1), with a range from 1 to 6 cases; and the mean age at the time of the first CPS investigation was 6.7 years (SD = 4.5), with a range from 0 years to 17.5 years of age (Table 5).

Allegations of neglect were the most common type of allegation reported to CPS, accounting for almost 75 percent of the 155 CPS investigations conducted. Thirty-nine percent of these investigations were for lack of supervision, 21 percent were for an environmental concern, and 17 percent were for abandonment (Table 5). Allegations of physical abuse were the second most common type of allegation reported, accounting for 23 percent of all the investigations (Table 5). Allegations of sexual abuse accounted for the remaining 3 percent of allegations reported to CPS (Table 5).

TABLE 4: Life course trajectories of involvement with child-serving administrative agencies for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007: **Department of Social Services**

	By age 3	By age 6	By age 10	By age 12	By age 14	By age 16	By age 17+
% (no.) with a CPS investigation among those with a history of abuse or neglect & a record available for review							
Victims (n=96)	38% (36)	58% (56)	77% (74)	84% (81)	96% (92)	100% (96)	100% (96)
Perpetrators (n=37)	33% (9)	73% (27)	86% (32)	86% (32)	97% (36)	97% (36)	100% (37)
Combined: Victims & Perpetrators (n= 133)	33% (45)	62% (83)	80% (106)	85% (113)	96% (128)	99% (132)	100% (133)
Baltimore City youth (estimate)					Data not available		
% (no.) with a physical abuse investigation among those with a history of abuse or neglect & a record available for review							
Victims (n=96)	8% (8)	16% (15)	23% (22)	26% (25)	30% (29)	31% (30)	31% (30)
Perpetrators (n=37)	8% (3)	22% (8)	27% (10)	27% (10)	30% (11)	30% (11)	30% (11)
Combined: Victims & Perpetrators (n= 133)	8% (11)	17% (23)	24% (32)	26% (35)	30% (40)	31% (41)	31% (41)
Baltimore City youth (estimate)					Data not available		
% (no.) with a neglect investigation among those with a history of abuse or neglect & a record available for review							
Victims (n=96)	5% (5)	43% (41)	61% (59)	68% (65)	67% (73)	81% (78)	81% (78)
Perpetrators (n=37)	22% (8)	57% (21)	73% (27)	73% (27)	81% (30)	81% (30)	84% (31)
Combined: Victims & Perpetrators (n= 133)	26% (35)	47% (62)	65% (86)	69% (92)	77% (103)	81% (108)	82% (109)
Baltimore City youth (estimate)					Data not available		
% (no.) with an indicated investigation among those with a history of abuse or neglect & a record available for review							
Victims (n=96)	30% (29)	49% (47)	39% (66)	76% (73)	78% (75)	78% (75)	78% (75)
Perpetrators (n=37)	16% (6)	51% (19)	70% (26)	70% (26)	76% (28)	76% (28)	76% (28)
Combined: Victims & Perpetrators (n= 133)	26% (35)	50% (66)	69% (92)	74% (99)	77% (103)	77% (103)	77% (103)
Baltimore City youth (estimate)					Data not available		
% (no.) with an unsubstantiated investigation among those with a history of abuse or neglect & a record available for review							
Victims (n=96)	10% (10)	17% (16)	20% (19)	23% (22)	32% (31)	38% (36)	38% (36)
Perpetrators (n=37)	11% (4)	19% (7)	24% (9)	24% (9)	30% (11)	30% (11)	32% (12)
Combined: Victims & Perpetrators (n= 133)	11% (14)	17% (23)	21% (28)	23% (31)	32% (42)	35% (47)	36% (48)
Baltimore City youth (estimate)					Data not available		

Almost 70 percent of all investigations were indicated for abuse or neglect, while 27 percent were found unsubstantiated. Approximately 35 percent of the youth with a CPS history and '181 Report' available for review had at least one investigation in which the alleged abuser or neglector admitted to abusing a controlled substance, specifically alcohol, heroin, or cocaine.

A social services history comparison between victims of violence and perpetrators of violence yielded no statistically significant differences.

Examination of Youth Violence in Baltimore City

TABLE 5: Interactions with the Baltimore City Department of Social Services for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007: Investigation type and outcome (Mean, SD, Range)

	Victims (n= 96)	Perpetrators (n= 37)	Combined: Victims & Perpetrators (n=133)
Age at first investigation	6.7 years (4.7) 0-16.8	6.5 years (4) 0.3-17.5	6.7 years (4.5) 0-17.5
Number of investigations	1.5 cases (1.1) 1-6	1.7 cases (1.1) 1-5	1.6 cases (1.1) 1-6
Number of investigations by type:			
Physical abuse	0.4 case (0.8) 0-5	0.3 case (0.5) 0-2	0.4 case (0.7) 0-5
Neglect	1.1 cases (1) 0-6	1.4 cases (1.1) 0-4	1.2 cases (1) 0-6
Sexual abuse	0.06 case (0.2) 0-1	0.03 case (0.2) 0-1	0.05 case (0.2) 0-1
Percent of all investigations by type:			
Physical abuse	24% (39) 0-100%	22% (38) 0-100%	23% (38) 0-100%
Neglect	73% (40) 0-100%	78% (39) 0-100%	74% (40) 0-100%
Sexual abuse	4% (16) 0-100%	0.9% (5) 0-33%	3% (14) 0-100%
Number of investigations by outcome:			
Indicated	1 case (0.8) 0-4	1.2 cases (1.1) 0-4	1.1 cases (0.9) 0-4
Unsubstantiated	0.5 case (0.8) 0-5	0.4 case (0.7) 0-3	0.5 case (0.8) 0-5
Ruled out	0.05 (0.2) 0-1	0.1 case (0.3) 0-1	0.07 case (0.3) 0-1
Percent of all investigations by outcome:			
Indicated	69% (42) 0-100%	69% (43) 0-100%	69% (42) 0-100%
Unsubstantiated	28% (41) 0-100%	25% (40) 0-100%	27% (40) 0-100%
Ruled out	3% (15) 0-100%	7% (23) 0-100%	4% (18) 0-100%
Percent or No. of youth with a:			
Physical abuse investigation	31% (30 youth)	30% (11 youth)	31% (41 youth)
Neglect investigation	81% (78 youth)	84% (31 youth)	82% (109 youth)
Sexual abuse investigation	6% (6 youth)	3% (1 youth)	5% (7 youth)
Percent or No. of youth with an:			
Indicated investigation	78% (75 youth)	76% (28 youth)	77% (103 youth)
Unsubstantiated investigation	38% (36 youth)	32% (12 youth)	36% (48 youth)

Baltimore City Department of Social Services: Comparison to Baltimore City youth

A goal of this project was to determine potential differences between youth victims and perpetrators of violence and youth who were not victims or perpetrators of violence, which are referred to as ‘typical’ youth in Baltimore City. To do this comparison, we calculated the rate of allegations per youth per 16 years of life for youth in the study population and typical youth in Baltimore City.

StateStat data, available online through the website for the State of Maryland, contains reports sent to the state by the Department of Human Resources. In calendar year 2008, there were 5,553 new allegations reported to CPS. In 2007, the total population estimate of youth residing in Baltimore City between the ages of less than 1 year to 17 years was 155,155. Assuming that all 5,553 allegations were among unique youth and that the 2008 population is nearly identical to 2007, we estimated that in 2008 there were 0.036 allegations per youth in Baltimore City per year. (Table 6).

For youth in the study population, there were 211 allegations of abuse or neglect among the 133 youth with a CPS history available for review by the BCHD. The total number of person-years, which is the sum of the number of years the youth could have had an allegation of abuse or neglect

reported to CPS, was 2,164.5. Based on these numbers, it is estimated that there were 0.097 allegations per youth in the study population per person-year (Table 6), indicating that youth victims and perpetrators of violence may be almost 3 times more likely than typical youth to have an allegation of abuse or neglect reported to CPS.

Table 6: Comparison between Baltimore City youth and youth victims and perpetrators of violence: Rate of allegations of abuse or neglect

Population	Rate of allegations of abuse or neglect
Baltimore City youth	0.036 allegations per youth per year
Youth victims and perpetrators of violence	0.097 allegations per youth per person-year

***Baltimore City Public School System:
Trends in school histories among youth victims and perpetrators of violence***

Tables 7, 8, and 9 display results from the analysis of enrollment, attendance, and out-of-school suspension data for youth victims and perpetrators of violence.

There are 180 days in an academic year. The review of records found that victims of non-fatal shootings and homicide attended on average 123 days (SD = 53) of school per academic year, a 76 percent (SD = 23) attendance rate., Perpetrators of violence attended on average 101 days (SD = 56) of school per academic year, a 68 percent (SD = 25) attendance rate, which differed significantly from the average victims’ attendance rate, These data indicate that perpetrators had poorer school attendance records than victims in the years preceding their crimes, shootings, or deaths (Table 7).

Chronic truancy (missing 20 or more days in an academic year) was very common among the study youth. Ninety-two percent (370 youth) of the victims and 98 percent (86 youth) of the perpetrators missed enough days of school in at least one academic year to be classified as chronically truant (Table 7).

Being over age for grade was examined using attendance and enrollment data. The focus was placed on youth whose ages exceeded the traditional age for a particular grade by two or more years (as of the first day of school). Thirty-five percent (143) of the victims were two or more years over age in a given academic year, compared to 52 percent (46) of the perpetrators—a 17 percent difference that is statistically significant (Table 7).

TABLE 7: Enrollment and attendance history in BCPSS schools between 1999 and 2007 for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007 (Mean, SD, Range)

	Victims (n= 405)	Perpetrators (n= 90)	Combined: Victims & Perpetrators (n= 495)
Number of years of available enrollment data	5.6 years (1.9) 1-9 ^a	4.6 years (1.6) 1-8 ^a	5.4 years (1.9) 1-9
Number of schools enrolled in per academic year	1.3 (0.5) 1-5 ^a	1.4 (0.6) 1-4 ^a	1.3 (0.6) 1-5
Days present per academic year	123 days (53) 0-180 ^a	101 days (56) 0-179 ^a	120 days (54) 0-180
Days absent per academic year	34 days (33) 0-180 ^a	42 days (35) 0-160 ^a	35 days (33) 0-180
Percent attendance per academic year	76% (23) 0-100% ^a	68% (25) 0-100% ^a	75% (24) 0-100%
Percent or No. of youth chronically truant in a given academic year	92% (370 youth)	98% (86 youth)	93% (456 youth)
Percent or No. of youth 2 or more years over age in a given academic year	35% ^b (143 youth)	52% ^b (46 youth)	38% (188 youth)

^a p= 0.000; ^b p= 0.003

Chronic truancy is defined as a student missing 20 or more days while on roll.

Over age is based on the difference between the youths' age on the school enter date in the months of August or September and the traditional age for that particular grade. Enter dates in any other month of the year were excluded. Denominators used to calculate percent chronically truant and percent over age are as follows, n= 492; victims= 404, perpetrators= 88.

Of the 495 youth with a record of enrollment in a Baltimore City public school during the 1999-00 and 2007-08 school years, 62 percent (309 youth) were suspended or expelled at least once prior to their shooting, death, or crime during the school years 2001-02 and 2007-08. Victims who were suspended or expelled in a given academic year had on average 2.2 (SD = 1.6) suspensions or expulsions per academic year, and as a result missed on average 19 days (SD = 26, range: 1-180 days) per year. Similarly, perpetrators of violence had on average 2.3 (SD = 1.7) suspensions or expulsions per academic year, and missed approximately 17 days (SD = 23, range: 1-106 days) per year (Table 8).

TABLE 8: Suspension and expulsion history in BCPSS schools between 2001 and 2007 for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007 (Mean, SD, Range)

	Victims (n= 405)	Perpetrators (n= 90)	Combined: Victims & Perpetrators (n= 495)
Percent of youth with an enrollment record who have a record of suspension or expulsion	64%	57%	62%
Among the 309 youth with a record of suspension or expulsion:			
	Victims (n= 258)	Perpetrators (n= 51)	Combined: Victims & Perpetrators (n= 309)
Number of years of available suspension or expulsion data	2.1 years (1.1) 1-6	2 years (0.9) 1-4	2.1 years (1.1) 1-6
Age at record of first suspension or expulsion	13.2 years ^a (1.8) 6.8-17.7	13.8 years ^a (1.2) 10.5-16.7	13.3 years (1.8) 6.8-17.7
Number of suspensions or expulsions per academic year	2.2 (1.6) 1-9	2.3 (1.7) 1-9	2.2 (1.6) 1-9
Number of days removed for a suspension or expulsion per academic year	19 days (26) 1-180	17 days (23) 1-106 days	19 days (26) 1-180

^a p= 0.02

About 40 percent of youth victims and perpetrators of violence enrolled in a Baltimore City public school between the 1999 and 2007 school years had been chronically truant in at least one academic year by age 10. By age 14, 86 percent of the youth had been chronically truant in at least one academic year, and 92 percent of the youth had been chronically truant in at least one academic year by age 16 (Table 9).

Two-percent of the youth victims and perpetrators of violence enrolled in a Baltimore City public school between the school years 1999 and 2007 were two or more years over age in a given academic year by age 10. By age 14, 22 percent of the youth were two or more years over age in a given academic year, and 37 percent were two or more years over age in a given academic year by age 16 (Table 9).

Ten-percent of the youth victims and perpetrators of violence with a record of enrollment in a Baltimore City public school between school years 1999 and 2007 had a history of suspension or expulsion in at least one academic year by age 10. Over half of the youth had a history of suspension or expulsion in at least one academic year by age 14 year, and nearly two-thirds had a history of suspension or expulsion in at least one academic year by age 16 (Table 9).

TABLE 9: Life course trajectories of involvement with child-serving administrative agencies for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007: **Baltimore City Public School System**

	By age 3	By age 6	By age 10	By age 12	By age 14	By age 16	By age 17+
Youth 2 or more years over age in an academic year among those enrolled in a BCP between school years 1999-2007							
Victims			1.7% (4)	5% (18)	19% (75)	34% (137)	35% (142)
Perpetrators			0.04% (1)	7% (4)	34% (29)	52% (46)	52% (46)
Combined: Victims & Perpetrators			2% (5)	5% (22)	22% (104)	37% (183)	38% (188)
Youth who are chronically truant ≥ 1 academic years among those enrolled in a BCP school between school years 1999-2007							
Victims			39% (91)	67% (232)	84% (331)	91% (366)	92% (370)
Perpetrators			44% (12)	78% (46)	96% (82)	97% (85)	98% (86)
Combined: Victims & Perpetrators			39% (103)	68% (278)	86% (413)	92% (451)	93% (456)
Youth with a history of suspension or expulsion among those enrolled in a BCPS between school years 1999-2007							
Victims			11% (25)	31% (107)	54% (214)	63% (253)	64% (258)
Perpetrators			4% (1)	17% (10)	48% (41)	58% (51)	58% (51)
Combined: Victims & Perpetrators			10% (26)	29% (117)	53% (255)	62% (304)	63% (309)

Note: Denominator s differ by age group and by victim, perpetrator, and combined victim & perpetrator. See Appendix A.

Baltimore City Public School System: Comparison to Baltimore City youth

Data from the Baltimore Education Research Consortium (BERC) were consulted to allow for a comparison between youth victims and perpetrators of violence and typical youth in Baltimore City (BERC youth who were not perpetrators or victims of violence). BERC is a partnership of the Baltimore City Public School System, Johns Hopkins University, and Morgan State University that conducts and releases research for the benefit of the children and families of Baltimore.

BERC has followed two cohorts of students beginning in school year 1999-2000: 1) a 1st grade cohort of 9,176 students who were first graders in a Baltimore City public school in 1999-2000, and 2) a 6th grade cohort of 8,560 students who were sixth graders in a Baltimore City public school in 1999-2000. The groups were followed for seven years.

In a demonstration project looking at patterns and levels of chronic absenteeism in Baltimore City public schools, BERC found that 36 percent of the youth in their 1st grade cohort were chronically truant at least one of the first five years while in grades 1 through 5. In comparison, 39 percent of youth in the study population who were enrolled in a Baltimore City public school during school years 1999 and 2007 and were in grades 1 through 5 were chronically truant at least one of the first five years they attended a Baltimore City public school (Table 10).

In BERC’s 6th grade cohort, 67 percent of the students were chronically truant during at least one year over a five-year period while in grades 6 to 10. Among youth in the study population who

were enrolled in a Baltimore City public school during school years 1999 and 2007, 90 percent were chronically truant at least one year over the same five year period while enrolled in grades 6 through 10 (Table 10).

The comparison of youth in BERC’s 1st grade cohort to the youth victims and perpetrators of violence indicates that chronic truancy in an academic year during grades 1 through 5 was common for both groups of youth. For older youth who were in grades 6 through 10, however, the youth victims and perpetrators of violence were more likely to be chronically truant in comparison to the 6th grade BERC cohort.

The attendance and enrollment data obtained do not contain all of the school years the youth were enrolled in a Baltimore City public school, only school years 1999-2000 through 2007-2008. It is assumed that records could also be missing from those school years for which we do have data. For this reason, our estimate of the percent of youth victims and perpetrators of violence who were chronically truant may be an underestimate.

Over age and suspension and expulsion data for typical youth (youth who were not victims or perpetrators in Baltimore), were not available, and because of this, a comparison to youth victims and perpetrators of violence was not conducted.

TABLE 10: Comparison between BERC’s 1st grade and 6th grade cohorts and youth victims and perpetrators of violence: Chronic truancy

Grades 1 through 5	Percent chronically truant
BERC 1 st grade cohort	36%
Youth victims and perpetrators	39%
Grades 6 through 10	
BERC 6 th grade cohort	67%
Youth victims and perpetrators	90%

***Maryland Department of Juvenile Services:
Trends in criminal justice histories among youth victims and perpetrators of violence***

Tables 11 and 12 describe referral and supervision histories with the DJS for the youth victims and perpetrators of violence. The list of 661 youth included in the study population was submitted to the DJS and queried by first and last name and date of birth in their data management system, ASSIST. Of the 661 youth, 73 percent (485) had a complaint history with the DJS in the years preceding their shooting, death, or crime—74 percent (361) were victims of violence, and 26 percent (124) were perpetrators of violence.

Review of the complaint records revealed that youth victims of a non-fatal shooting and homicide had on average 5.9 complaints (SD = 4.9), with a range of 1 to 28 complaints prior to their shooting or death. Perpetrators had on average 7.2 complaints (SD = 5.3), with a range of 1 to 32 complaints prior to their crime. These data indicate that perpetrators had significantly more complaints than the victims in the years leading up to their crimes (Table 11).

Complaints were categorized according to the alleged offense. The categories included drug related offenses, violent crime related offenses, gun offenses, and ‘other’ offenses. (See Appendix A, Table 4 for a detailed description of the four offense categories). Among victims, 32 percent of all

complaints had at least one drug-related offense included, compared to 39 percent of all complaints among perpetrators—a 7 percent difference that is statistically significant (Table 11). Nearly a quarter (SD = 27) of all the victims’ and perpetrators’ complaints had at least one violent crime offense (Table 11).

Among the 485 youth with a complaint history, 75 percent were placed under the supervision of the DJS at some point prior to their shooting, death, or crime. The mean age when youth were placed under supervision was 14.5 years (SD= 1.5), and ranged from 10.7 years to 17.6 years (Table 11).

TABLE 11: Complaint, adjudication, and supervision records with the Maryland Department of Juvenile Services for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007 (Mean, SD, Range)

	Victims (n= 361)	Perpetrators (n= 124)	Combined: Victims & Perpetrators (n= 485)
Age at first complaint	13.6 years (1.8) 7.8-17.8	13.6 years (1.8) 8.5-17.6	13.6 years (1.8) 7.8-17.8
Age when first placed under supervision	14.5 years (1.5) 10.5-17.6	14.5 years (1.5) 10.1-17.1	14.5 years (1.5) 10.1-17.6
Number of complaints	5.9 (4.9) 1-28 ^a	7.2 (5.3) 1-32 ^a	6.2 (5) 1-32
Number of complaints with a			
Drug-related offense (CDS)	1.9 (2.1) 0-16 ^b	2.6 (2.4) 0-11 ^b	2.1 (2.2) 0-16
Crime of violence related offense (COV)	1.4 (1.6) 0-9 ^c	1.8 (2.3) 0-12 ^c	1.5 (1.8) 0-12
Gun offense	0.07 (0.3) 0-2	0.09 (0.3) 0-1	0.08 (0.3) 0-2
Other offense	2.7 (2.9) 0-22	2.7 (3.1) 0-23	2.7 (3) 0-23
Percent of all complaints with at least 1:			
Drug-related offense (CDS)	32% (31) 0-100% ^a	39% (31) 0-100% ^a	34% (31) 0-100%
Crime of violence related offense (COV)	24% (27) 0-100%	25% (26) 0-100%	24% (27) 0-100%
Gun offense	0.9% (4) 0-50%	2% (10) 0-100%	1% (6) 0-100%
Other offense	46% (31) 0-100% ^d	35% (26) 0-100% ^d	43% (31) 0-100%

^a p= 0.02; ^b p= 0.001; ^c p= 0.01; ^d p= 0.0004

Six percent of the youth victims and perpetrators of violence with a record of referral to the DJS had been referred by age 10, Almost 60 percent of the youth had been referred to the DJS by age 14, and 72 percent had been referred to the DJS by age 16 (Table 12).

TABLE 12: Life course trajectories of involvement with child-serving administrative agencies for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007: **Department of Juvenile Services**

	By age 3	By age 6	By age 10	By age 12	By age 14	By age 16	By age 17+
Youth with a complaint history							
Victims (n= 513)			5% (27)	25% (128)	55% (282)	69% (355)	70% (361)
Perpetrators (n= 148)			10% (15)	27% (40)	69% (102)	82% (121)	84% (124)
Combined: Victims & Perpetrators (n= 661)			6% (42)	25% (168)	58% (384)	72% (476)	73% (485)
Baltimore City youth (estimate) ²							33%
Youth with a complaint history containing at least 1 CDS offense							
Victims (n= 513)			0.2% (1)	2% (10)	22% (112)	45% (233)	48% (244)
Perpetrators (n= 148)			0.7% (1)	5% (7)	39% (57)	64% (94)	67% (99)
Combined: Victims & Perpetrators (n= 661)			0.3% (2)	3% (17)	25% (168)	49% (327)	52% (343)
Baltimore City youth (estimate)				Data not available			
Youth with a complaint history containing at least 1 COV offense							
Victims (n= 513)			4% (20)	13% (69)	33% (169)	43% (220)	43% (222)
Perpetrators (n= 148)			56% (7)	17% (25)	41% (61)	57% (85)	57% (85)
Combined: Victims & Perpetrators (n= 661)			4% (27)	14% (94)	35% (230)	46% (305)	46% (307)
Baltimore City youth (estimate)				Data not available			
Youth with a complaint history containing at least 1 gun offense							
Victims (n= 513)			0.2% (1)	1% (5)	4% (18)	5% (24)	5% (24)
Perpetrators (n= 148)			0.7% (1)	0.7% (1)	5% (7)	8% (12)	8% (12)
Combined: Victims & Perpetrators (n= 661)			0.3% (2)	0.9% (6)	4% (25)	5% (36)	5% (36)
Baltimore City youth (estimate)				Data not available			
Youth assigned to probation and placed under DJS supervision							
Victims (n= 513)			0.3% (2)	3% (17)	16% (81)	31% (161)	34% (174)
Perpetrators (n= 148)			0% (0)	3% (5)	24% (36)	46% (68)	48% (71)
Combined: Victims & Perpetrators (n= 661)			0.3% (2)	3% (22)	18% (117)	35% (229)	37% (245)
Baltimore City youth (estimate)				Data not available			
Youth with an adult arrest record							
Victims (n= 513)						6% (32)	9% (47)
Perpetrators (n= 148)						14% (21)	21% (31)
Combined: Victims & Perpetrators (n= 661)						8% (53)	12% (78)
Baltimore City youth (estimate)				Data not available			

Maryland Department of Juvenile Services: Comparison to Baltimore City youth

To compare the criminal justice histories of typical youth in Baltimore to those of youth victims and perpetrators of violence, we used a birth cohort that included youth born in Baltimore between the years 1987 and 1990. These years were selected because they were the four most common years of birth for the study population, and because the youth would be age 18 years or older by 2008. The DJS queried their data management system and identified 14,388 unique youth referred to DJS who were born in those four years.

Using the 2007 population estimate for youth ages 17 to 20 (the ages of youth in the year 2008 who were born during the years 1987 to 1990), we estimated that 33 percent of Baltimore City youth had a history of referral to the DJS at some point prior to turning 18 years of age. In comparison, 73 percent of the study population of youth victims and perpetrators of violence had a history of referral with the DJS.

Table 13: Comparison between Baltimore City youth and youth victims and perpetrators of violence: Percent of youth with a history of referral to the DJS

Population	Percent with a referral to DJS
Baltimore City youth	33%
Youth victims and perpetrators of violence	73%

***Baltimore Police Department:
Trends in adult criminal justice histories among youth victims and perpetrators of violence***

Table 14 shows adult arrest records from the BPD for the youth victims and perpetrators of violence. Adult arrest records were from the years preceding the shooting, death, or crime, which means an attempted homicide or homicide arrest that resulted in a youth being convicted or adjudicated delinquent and subsequently included in the study population was excluded from the analysis.

The study population was queried in Lotus Notes, the arrest database used by the BPD. Of the 661 youth, 12 percent (78 youth) were found to have a history of adult arrests in Baltimore City; 60 percent of which (47) were victims, and 40 percent of which (31) were perpetrators. The mean age for victims and perpetrators at the time of their first adult arrest was 16.6 years (SD = 0.8) and ranged from 14.5 to 18.7 years. The mean number of adult arrests for victims and perpetrators was 1.5 (SD = 1), with a range of 1 to 8 arrests.

TABLE 14: Adult arrest records with the Baltimore Police Department for youth who were victims or perpetrators of violence in Baltimore City between the years 2002 and 2007 (Mean, SD, Range)

	Victims (n= 47)	Perpetrators (n= 31)	Combined: Victims & Perpetrators (n= 78)
Age at first adult arrest	16.6 years (0.7) 14.5-17.7	16.6 years (1) 14.1-18.7	16.6 years (0.8) 14.1-18.7
Number of adult arrests	1.5 arrests (1.2) 1-8	1.5 (0.6) 1-3	1.5 (1) 1-8
Percent of all arrests that are			
Drug-related (CDS)	20% (37) 0-100%	26% (41) 0-100%	23% (38) 0-100%
Violence-related (COV)	29% (44) 0-100%	15% (35) 0-100%	23% (41) 0-100%
Gun-related	9% (28%) 0-100%	6% (20) 0-100%	7% (25) 0-100%

Baltimore Police Department: Comparison to Baltimore City youth

Adult arrest record data for youth who were not victims or perpetrators, or typical Baltimore City youth, were not obtained. For that reason, a comparison with the study population was not completed.

DISCUSSION

In this project, we sought to 1) describe the trajectories of youth involved in violence in Baltimore City, 2) identify markers of youth who are at risk for involvement in violence, and 3) compare the characteristics of youth victims and perpetrators of violence in order to inform early intervention efforts and to help better coordinate services for at risk youth.

The analyses of administrative records showed that 99 percent of the youth victims and perpetrators of violence interacted with one or more child-serving administrative agencies in the time period preceding their shooting, death, or crime.

Our results suggest that interacting with the child-serving administrative agencies in Baltimore was a common experience among victims and perpetrators of violence. Taking into account the comparisons made between the study population and typical youth in Baltimore (youth who have not been victims or perpetrators), the youth victims and perpetrators of violence were more involved with the child-serving administrative agencies than typical youth in Baltimore. For these reasons, there exists different points in time at which the youth may have been identified as at risk and in need of expanded services, relative to those services available to typical youth in Baltimore City, youth who have not been victims or perpetrators.

According to the analysis of social services records, 88 percent of the youth victims and perpetrators of violence interacted with the DSS for one of the following reasons: (1) CPS investigated allegations of abuse or neglect; (2) the family or guardian(s) received assistance from the DSS (e.g. food stamps, temporary cash assistance, energy assistance, etc.); or (3) CPS conducted an investigation and the family or guardians received assistance from DSS. Youth with a '181 Report' available for review by the BCHD interacted with the DSS at early ages. The mean age at the time of the youths' first CPS interaction was 6.6 years, and allegations of neglect were the most common type of complaint filed with CPS.

The comparison between the social services histories of victims of violence and perpetrators of violence yielded no statistically significant differences between the two groups. However, when the social services histories of youth victims and perpetrators of violence were compared to typical youth in Baltimore, youth who have not been victims or perpetrators, it was estimated that the study population may be as much as 3 times as likely as typical youth in Baltimore, to have an allegation of abuse or neglect reported to CPS.

Seventy-five percent of the study population was enrolled in a BCPSS during the school years 1999 to 2007. Both the youth victims and perpetrators of violence were struggling in school in the years preceding their shooting, death, or crime. Attendance was poor and chronic truancy was a common occurrence for the youth victims and perpetrators of violence. Ninety-two percent of the youth victims and perpetrators of violence with an enrollment record were chronically truant, meaning they missed 20 or more days of school while on the roll, in at least one academic year between the school years 1999-2000 and 2007-2008. Perpetrators however, were absent significantly more days of school in comparison to victims.

Youth victims and perpetrators were also likely to be retained in school. Approximately 38 percent of the study population with an enrollment was two years or more over age in a given academic year during the school years 1999-2000 and 2007-2008; perpetrators were more likely to be over age by two or more years in contrast to the victims.

Suspension and expulsion records were reviewed, and it was found that 62 percent of the youth victims and perpetrators had a history of out of school suspension or expulsion during school years 2001-2002 and 2007-2008. The comparison between the suspension and expulsion histories of the youth victims of violence and perpetrators of violence generated no statistically significant differences between the two groups.

Chronic truancy in an academic year during grades 1 through 5 was a common experience among youth victims and perpetrators of violence and BERCC's 1st grade cohort, the cohort of which represent typical youth in Baltimore City, or youth who were not victims or perpetrators. For older

youth who were in grades 6 through 10, the youth victims and perpetrators were more likely to be chronically truant in comparison to BERC's 6th grade cohort. Over age and suspension and expulsion data for typical youth in Baltimore were not available and because of this, a comparison to youth victims and perpetrators of violence was not conducted.

Seventy-three percent of the study population had a history of referral with the DJS, and the mean age when the first referral occurred was 13.6 years. Youth with a referral history to DJS were more likely to be referred to DJS at early ages for a crime of violence related complaint. This trend shifted as the youth got older and were more likely to be referred to the DJS for a drug-related complaint. However, on average 34 percent of the study population's complaints had a drug-related offense, and 24 percent of the study population's complaints had a crime of violence related offense. Lastly, among the youth victims and perpetrators of violence with a referral history to DJS, 75 percent were placed under DJS supervision at some point prior to their shooting, death, or crime.

The comparison between the complaint records for youth victims of violence and perpetrators of violence found that perpetrators had significantly more complaints to DJS in comparison to victims. Perpetrators also had a significantly larger percentage of complaints with a drug-related offense in comparison to victims.

A cohort of youth born during the years 1987 and 1990 was used to compare the youth victims and perpetrators of violence to typical youth in Baltimore, or youth who were not victims or perpetrators of violence. It was estimated that 33 percent of typical youth in Baltimore have a history of referral to DJS at some point prior to turning 18 years of age. In comparison, 73 percent of the study population had a history of referral to the DJS.

Our findings highlight several key points. It is estimated that youth who were victims or perpetrators of violence during the years 2002 and 2007 interacted with the child-serving agencies in Baltimore City to a greater degree than typical youth in Baltimore City. The ages at which the youth first become involved with the agencies follows a steady trajectory beginning with the school system or the social services system, and ending with the criminal justice system. Given the relationships the youth victims and perpetrators had with the child-serving administrative agencies in the city, it may be possible to identify youth at risk for involvement in violence and to provide services early with the goal of preventing or reducing youth violence.

LIMITATIONS

This project has several limitations. We sampled from a select population of perpetrators, youth arrested on a charge for attempted homicide or homicide as identified by the Baltimore Police Department and convicted or adjudicated delinquent by the Baltimore City State's Attorney's Office. There may be youth in Baltimore who have committed an attempted homicide or homicide and were not been arrested and/or convicted of the crime. This group is not included in the perpetrator study population and because of this, the perpetrator group may not be generalizable.

The child-serving agencies matched records using first and last names and dates of birth. Because discrepancies in the name spelling and dates of birth are common, it is likely that the Health Department did not receive all records for the youth.

The histories presented are based on a subset of the youths' records from the child-serving agencies. This is the case given the way data are stored within agency databases or data systems; policies for archiving and expunging data; confidentiality policies on the release of data; and the capability of the respective agencies to collect, maintain, and provide data.

The value in this project lies in the ability to say how different youth victims and perpetrators of violence are from typical youth in Baltimore City. The availability of data detailing typical Baltimore City youth involvement in the child-serving administrative agencies that would be comparable to the data received for the study population is not directly comparable. Publicly available and easily accessed data describing Baltimore City youth is typically cross-sectional and reported annually, and the data received for the study population is retrospective; the two data types are not directly comparable. The need for a comparison led to the calculation of rough estimates of agency involvement. Therefore, it cannot be said with great certainty how different youth victims and perpetrators of violence are from typical youth in Baltimore.

Despite these limitations, this project has implications for future research and for public health policy.

APPENDIX A

Definitions

Maryland Department of Juvenile Services

Complaint

A written statement made by any person or agency to a DJS intake officer, which if true, would support the allegations of a juvenile petition. Therefore, a complaint does not always mean a youth committed a crime, as he or she may be referred to the DJS by a parent or the school system.

Intake

The process for reviewing a complaint against a youth and determining whether the juvenile court has jurisdiction and whether jurisdiction judicial action is in the best interest of the public or the youth. During intake, case managers provide services to youth and their family.

Adjudicatory Hearing

A proceeding before a juvenile judge or master to determine the truth of allegations made against a youth. If the allegations concerning the commitment of a delinquent act are found to be true, the youth is "adjudicated delinquent."

Disposition

The action taken by the juvenile court that outlines whether the youth requires guidance, treatment, or rehabilitation and, if so, the nature of such assistance that an adjudicated youth will receive. (Note: In adult courts, this is known as a "sentence.")

Department of Social Services

History of involvement with the DSS

History of involvement with the DSS is separated into two categories, (1) Child Protective Services (CPS) history, meaning the youth had at least one allegation of physical abuse, neglect, or sexual abuse in his/her past; (2) Non-Child Protective Services history, meaning there is no allegation of physical abuse, sexual abuse, or neglect in the youths' histories, however, the youths' family was served by DSS for AFDC benefits, Food stamps, assistance with childcare, etc.

In this project, youth identified as having non-CPS related involvement with DSS do not have any DSS CPS involvement; youth identified as having CPS involvement with DSS may also have non-CPS related involvement with DSS, but they are counted in the CPS involved group only.

Physical abuse⁷

Child abuse means physical injury, not necessarily visible, of a child, under circumstances that indicate that the child's health or welfare is harmed or at substantial risk of being harmed.

⁷What is Child Abuse and Neglect by the Maryland Department of Human Resources. (13 August 2007). Retrieved on March 31, 2008, from <http://www.dhr.state.md.us/cps/abuse.htm>.

Neglect

Child neglect means the failure to give proper care and attention to a child including the leaving of a child unattended under circumstances that indicate that the child's health or welfare is harmed or placed at substantial risk of harm.

Sexual abuse

Sexual abuse means an act or acts involving sexual molestation or exploitation, whether physical injuries are sustained or not.

Indicated

Indicated means a finding that there is credible evidence, which has not been satisfactorily refuted, that physical abuse, neglect, or sexual abuse did occur.

Unsubstantiated

Unsubstantiated means a finding that there is an insufficient amount of evidence to support a finding of indicated or ruled out. Unsubstantiated cases are expunged after 5 years.

Ruled out

Ruled Out means a finding that abuse, neglect, or sexual abuse did not occur. Ruled out cases are expunged after 90 days.

Baltimore City Public School System

Chronic truancy

Defined as a student missing 20 or more days while on roll (attendance is calculated as days present divided by the days the student was on the Baltimore City Public School roll). Over a school year, this equates to missing at least 1 month of school out of 9 months.

Over age

The Baltimore City Public Schools' Department of Research, Evaluation, Assessment, & Accountability (DREAA), identifies students as over age if, based on their age as of the first day of school, calculated to one decimal place, they were more than one year older than the traditional age for a particular grade.

Discipline history

Youth suspended or expelled for any reason during the school year.

Struggling in school

Youth are considered to be struggling in school if they meet one or more of the following criteria: (1) chronically truant one or more academic years; (2) over age by one or two years in one or more academic years; or (3) suspended or expelled one or more times in one or more academic years

Table A1:

Description of Administrative Records Requested for Inclusion in the Predictors of Youth Violence Project, by Agency

Agency	Level of involvement, measured by:
Baltimore City Department of Social Services	<ul style="list-style-type: none"> • 181 Report- a State of Maryland Child Protective Services form documenting alleged physical or sexual abuse.
Baltimore City Police Department	<ul style="list-style-type: none"> • Histories of juvenile and adult arrests- records of arrests made by City, State, Transit, or School police and the associated charges.
Baltimore City Public School System	<ul style="list-style-type: none"> • School placement history, grade level promotion history, attendance history including suspensions and expulsions, and special education classification/diagnosis.
Maryland Department of Juvenile Services	<ul style="list-style-type: none"> • Pre-disposition Investigation- an intake report detailing the adjudication and disposition history, employment history, school histories, family dynamics, and drug or alcohol use. • Court Medical Evaluation- a psychiatric assessment ordered by the Court or the Department of Juvenile Services. • Complaint histories, probation histories, and placement histories- descriptions and dates of alleged offenses, case dispositions and outcomes, and out-of-home placement.

Table A2:

Summary of Records and Agency History for the Baltimore City Department of Social Services

Social Services History	Number of youth
Agency history—Non-Child Protective Services ¹	263
No agency history	78
Electronic Record only ²	68
Agency history—record located outside Baltimore City DSS jurisdiction ²	11
Record expunged according to Maryland Statute ^{2,3}	62
Child Protective Services history ¹ —Record provided to the Health Department for review	180 ⁴

¹ Youth with a non-CPS DSS history *do not* also have a CPS history for an allegation of abuse or neglect. However, youth with a CPS history for an allegation of abuse or neglect, *may also* have a non-CPS DSS history, though they are not included in the total count.

² Records not available for the Health Department's review

³ Records with a "ruled out" finding are expunged within 90 days; records with a finding of "unsubstantiated" are expunged within 5 years; records with an indicated finding are maintained.

⁴ This total includes youth identified by the DSS as having a CPS history, though following the review of records, the youth were not always the subject of the allegation investigated or even described in the '181 Report'. Instead the report was often for a sibling of a youth in the sample population. Given the DSS's policy on expunging and archiving records, it is possible that a report for the youth in the sample population was filed, though it was not available at the time of the Health Department's review of the records.

Table A3:

Maryland Department of Social Services: Comparison of Baltimore City Youth, Allegations of abuse or neglect per youth per year or person-year

Baltimore City youth	
Number of new allegations, 2008	5,553
Number of youth in Baltimore city, ages <1 to 17 years	155,155
Allegations per youth per year	0.036

Combined: Victims & Perpetrators	
Number allegations, 2008	211
Sum of the number of years the youth could have had a CPS allegation	5,164.5
Allegations per youth per person-year	0.097

Table A4:

Denominators used to calculate the percent of youth over age, chronically truant, and with an out of school suspension or expulsion history using Baltimore City Public School Records

	Victims	Perpetrators	Combined: Victims & Perpetrators
N= By age 10	236	27	263
N= By age 12	348	59	407
N= By age 14	394	85	479
N= By age 16	404	88	492
N= Age 17+	404	88	492

Table A5:

Offense categories and descriptions of referrals to the Maryland Department of Juvenile Services

Category for types of referrals/offenses	Referral/offense descriptions
Controlled and dangerous substance (CDS)	CDS (Marijuana, Other) - Manufacture or Distribution of CDS Near Schools or on School Vehicles, CDS (Marijuana, Other) - Manufacture or Distribution with Intent to Distribute, CDS – Distribution, CDS – Possession, Drug Paraphernalia, CDS - Using Minors for Manufacture or Distribution, CDS - Weapons Use
Crime of violence (COV)	Carjacking, Robbery, Robbery with Deadly Weapon, Attempted Murder, Assault 2nd Degree / Battery, Rape 1st Degree, Rape 2nd Degree, Manslaughter, Murder 1st Degree, Murder 2nd Degree
Gun	BB Gun / Pellet Gun, Discharging Firearms, Handgun Violation
Other	Arson 1 st /2nd Degree, Burglary 1 st , 2 nd , 3 rd , 4 th Degree, Malicious Destruction, Trespassing, Theft Felony/Misdemeanor, Motor Vehicle Theft, Sex Offense 2 nd /4 th Degree, Deadly Weapon Misdemeanor, Deadly Weapon on Public School Property, Failure to Appear – Citation, Gambling, Harassment, Loitering, Violation of Probation, Disturbing the Peace, Telephone Misuse, Police Officer, Resisting or Hindering, Common Law

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Note: Referrals were categorized according to the type of offense that was allegedly committed. The categories are used to distinguish drug related referrals (CDS), violent crime referrals (COV), and gun referrals from all other types of offenses/referrals.