

# Trends of Violence-Related Richmond Ambulance Authority Pick-ups, 2002-2015

## Background

The Clark-Hill Institute for Positive Youth Development regularly examines trends of youth violence in Richmond City. This factsheet examines trends of violence-related ambulance pick-ups in Richmond, Virginia. The data included all traumatic injury-related ambulance pick-ups made by the Richmond Ambulance Authority (RAA) between July 2001 and June 2015 among youth 10-24 years of age. The RAA is the franchise granted by the City of Richmond to provide Emergency Medical Services (EMS).

Violence related traumatic injury was determined using disposition (reason for the ambulance pick-up) recorded by the RAA paramedics. To determine injury pick-ups, the recommended framework for presenting injury mortality data, ninth revision (ICD-9) provided by the CDC was used. Injury pick-ups include: animal bites/attacks, assault (includes sexual assault, rape, fight/brawl, firearm injury and stabbing), burns/explosions, drowning, electrocution, fall, hemorrhage/lacerations, industrial/machinery penetrating trauma, traffic accident/motor vehicle crash, and non-specified traumatic injury. Due to changes in data collection, injury data between July and December 2008 was not available for analysis. Imputation was used to provide the missing six months of injury data. This was calculated by using the average number of injury pick-ups for the four years before (July-December 2004 – 2007) and four years after (July-December 2009 – 2012) the 6-month period to create a stable imputed value.

This factsheet focuses on violent injury events (assaults) including, sexual assault, rape, fight/brawl, firearm injury, stabbing and other non-specified assaults. Data are reported and examined in fiscal years, starting July 1<sup>st</sup> and ending June 30<sup>th</sup>. Rates for violence-related injuries per 1,000 were calculated using U.S. Census Bureau population data (Intercensal Population Estimates and Census 2010).

## Characteristics

There were 15,817 injury pick-ups between July 2001 and June 2015 involving 10-24 year olds. Nearly one-fifth (19.7%) of these pick-ups were due to violent injury. During the past 14-years, the highest violent injury ambulance pick-ups was observed in 2006 and remained relatively high through 2012; however, the rate has decreased in the past 3 years (Figure 1).

As shown in Table 1, the proportion of violence-related injury pick-ups ranged from 11.5% (2004) to 29.4% (2006).

Figure 1: Rate of RAA Injury Pick-ups, 10-24 Year Olds

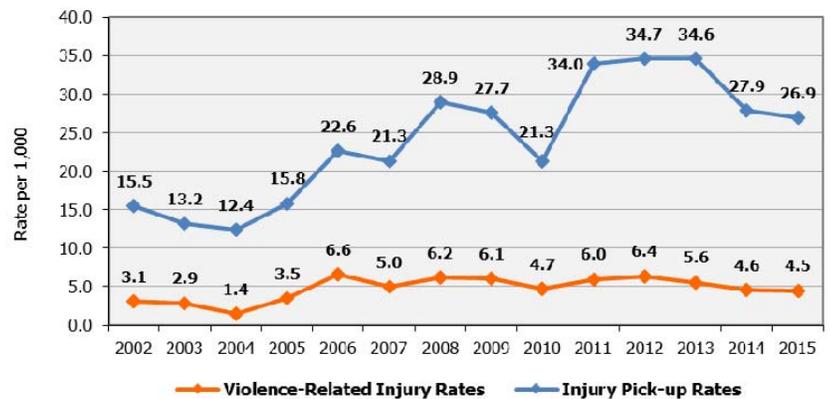


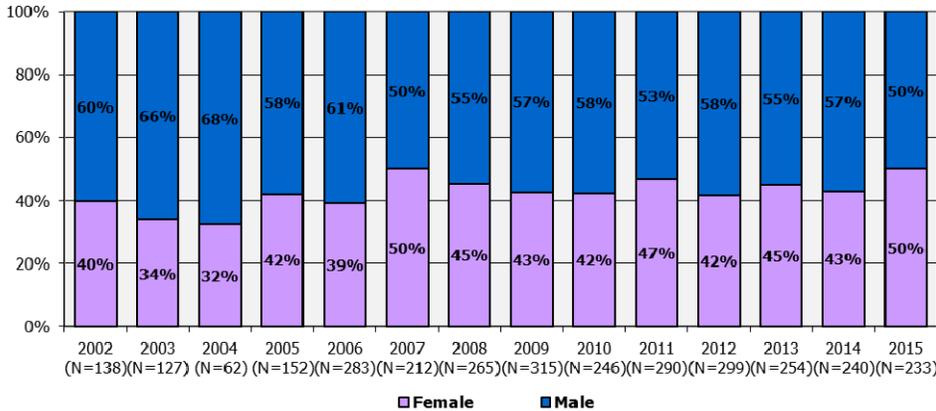
Table 1: RAA Pick-ups, 10-24 Year Olds

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	Total
Violence-related injury pick-ups (%)	138 (20.3)	127 (22.0)	62 (11.5)	152 (22.3)	283 (29.4)	212 (23.2)	265 (21.3)	312 (21.8)	246 (22.3)	290 (17.6)	299 (18.4)	254 (16.1)	240 (16.6)	233 (16.7)	3113 (19.7)
All injury pick-ups	679	578	538	682	963	913	1242	1433	1102	1647	1622	1576	1448	1394	15817

Note: (%) indicates the percent of violence-related injury pick-ups among all injury pick-ups.

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**Figure 2: Proportion of Violence-Related Events by Gender**



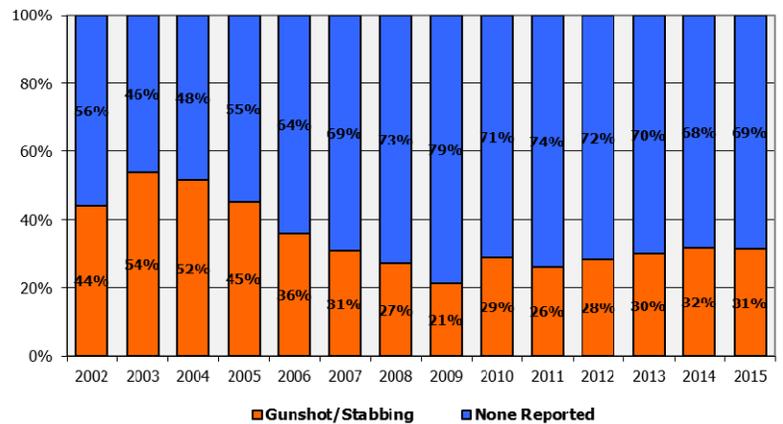
On average during the 14-year time period, a higher proportion of males (58%) was picked up by RAA for violence-related injuries, compared to females (42%). The proportion of males picked up ranged from 53% in 2001 to 68% in 2004 (Figure 2). Overall, the average age for males and females was nearly identical (19.8 and 19.6 years, respectively). The average age of males ranged from 19.0 to 20.6 years and for females it ranged from 18.3 to 20.5 years (data not shown).

## Weapon-Related Events

The highest weapon-related ambulance pick-ups occurred in 2003 and 2004 followed by a steady decline through 2009. However, the proportion slightly increased in 2010 followed by a slight decline in 2011 and subsequent stabilization through 2015 (Figure 3).

Note: In 2005, weapon involvement transitioned from being captured in three categories (i.e., stabbing, shooting and fight/brawl) to two categories (i.e., assault/sexual assault and stab/gunshot). For this analysis, stabbing, shooting or stab/gunshot were defined as weapon-related events. (Note: Comparisons across time should be done with caution due to the changes in reporting methods).

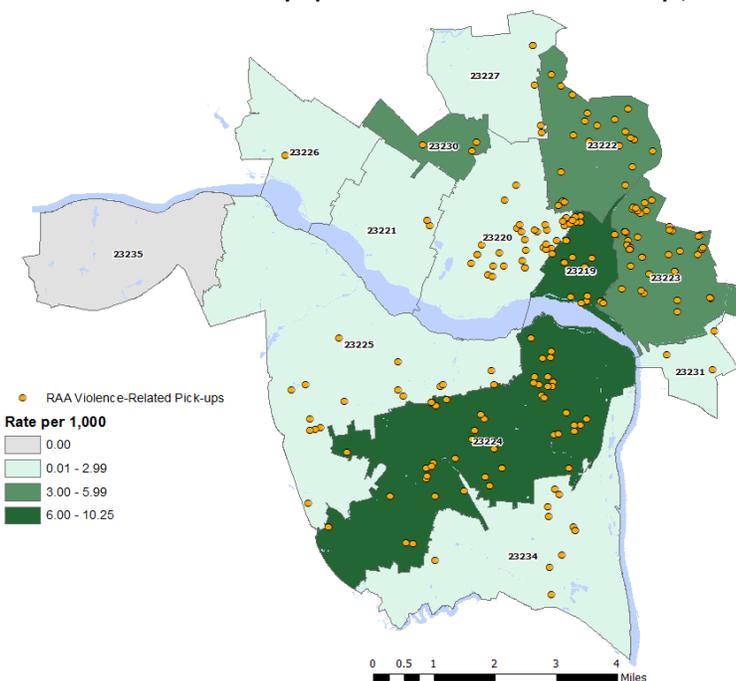
**Figure 3: Proportion of Violence-Related Events by Weapon**



## Geographic Distribution

Consistent to previous years, most RAA pick-ups occurred in the northern and southern central and eastern areas of the city (The map below shows 2015 data only). The rate of RAA violence related ambulance pick-ups was highest in downtown area (zip code 23219) followed by the south side of the city (zip code 23224).

**2015 Rate of Violence-Related Events by Zip Code & Location of Ambulance Pick-ups, 10-24 Year Olds**



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