

## Trends of Violence-Related Richmond Ambulance Authority Pick-ups, 2002-2007

### Background

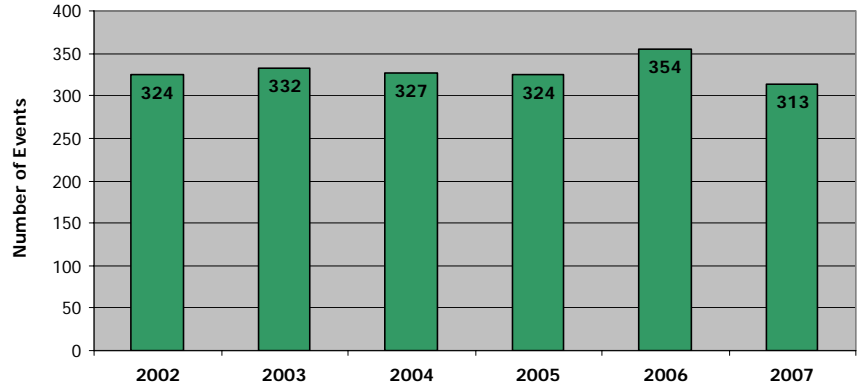
Richmond Ambulance Authority provided data on all ambulance pick-ups of youth 24 years or younger. Pick-ups made between July 2001 and June 2007 were analyzed; data are in fiscal years, beginning July 1<sup>st</sup> and ending June 30<sup>th</sup>.

Data on traumatic incidents were obtained from RAA, which included events with reported problems of animal bites, assault/rape, burns/explosions, drowning/diving, electrocution, eye injury/problem, fall, heat/cold exposure, hemorrhage/lacerations, inaccessible incident/other entrapments, penetrating trauma, traffic accident, and traumatic injury. Additional information about what occurred in each incident was available based on the ascertainment of RAA paramedics. To determine which incidents were violent in nature, data available for both the reported problem and paramedic ascertainment were utilized. Events where an assault occurred, including rape, fight/brawl, shooting, or stabbing were categorized as a violent injury-related event and included in the analysis.

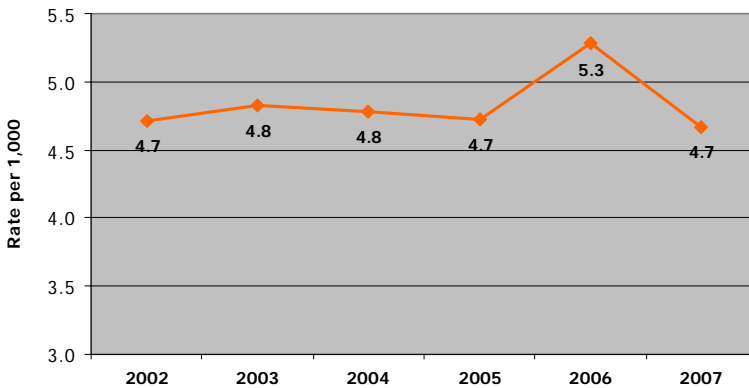
### Characteristics

There were 9,442 traumatic event calls reported to RAA between July 2001 and June 2007, of which 1,974 or 21% were due to violent injury events. The total number of violence-related injury events per year was similar, ranging from 313 to 354 (Figure 1).

**Figure 1: Number of Violent Injury Events by Year**



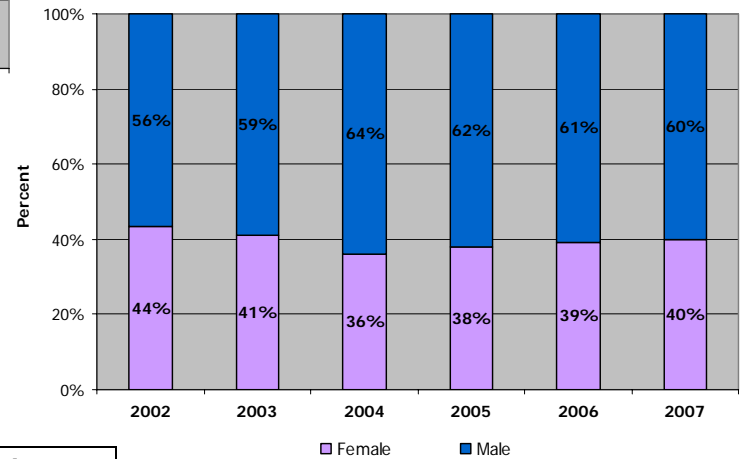
**Figure 2: Trend in Rate of Violent Injury Events**



The rate of violence-related injury incidents was consistent in 2002 through 2005 and in 2007, at 4.7 or 4.8 per 1,000. In 2006, the rate was highest at 5.3 per 1,000 (Figure 2).

Overall, males were picked up by the RAA more frequently for violence-related events than females. The proportion of females decreased from 2002 to 2004, from 44% to 36% of events, followed by small increases to 38%, 39%, and 40% in 2005, 2006, and 2007, respectively (Table 1, Figure 3).

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



**Table 1: Number Violence-Related Events by Gender**

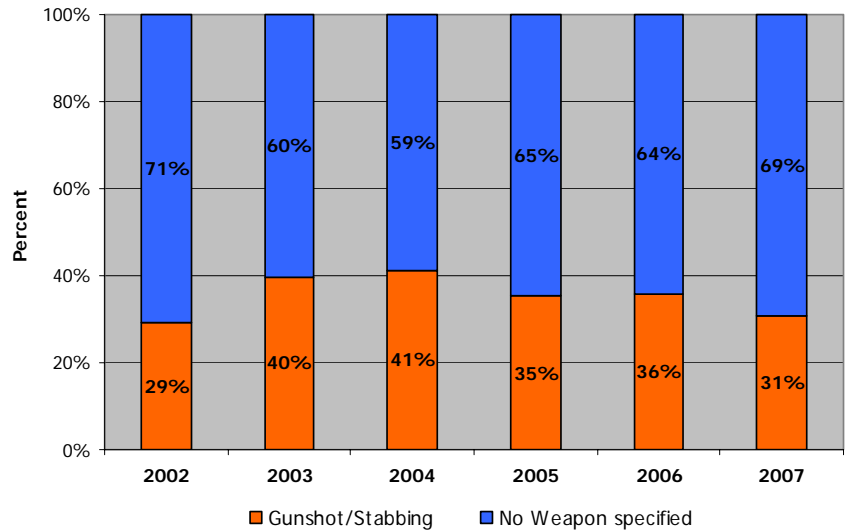
	2002	2003	2004	2005	2006	2007	Total
Male	183	196	209	201	216	188	1193
Female	141	136	118	123	138	125	781
<i>Total</i>	<i>324</i>	<i>332</i>	<i>327</i>	<i>324</i>	<i>354</i>	<i>313</i>	<i>1974</i>

The mean age of those picked up for violence-related injuries was 18 years. There were no significant differences in the average age between males and females. Males on average were 18 years at the time of the incident in 2002, 2005, and 2007 and 19 years in 2003, 2004, and 2006. Between 2002 and 2006, females, on average, were 18 years of age and in 2007, 19 years was the average age.

### Weapons-Related Events

From 2002 to 2004, gunshot or stab injuries increased by 41%. In 2002, 29% of the ambulance pick-ups indicated weapon involvement compared to 41% in 2004. Between 2005 and 2007, the proportion decreased from 35% to 31% (Figure 4).

Figure 4: Proportion of Violence-Related Events by Weapon

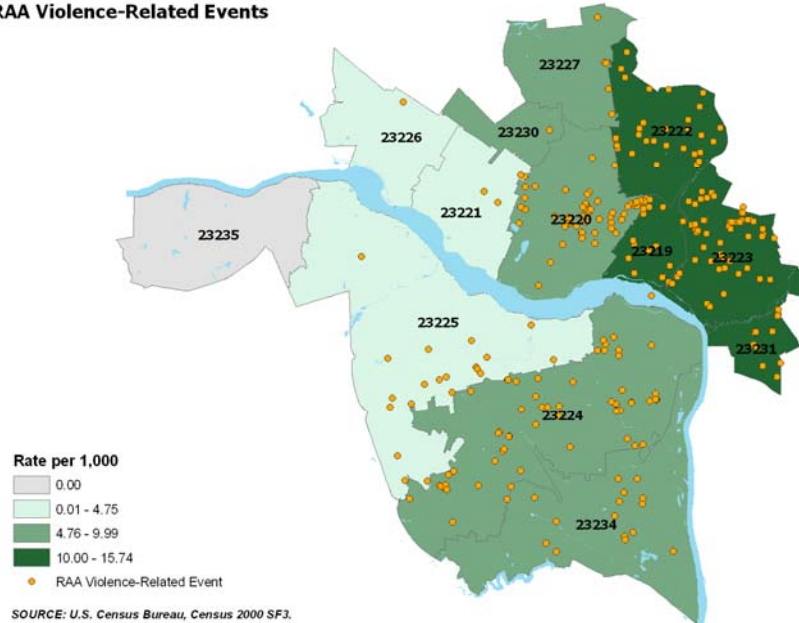


### Geographic Distribution

Not all transports made by Richmond Ambulance Authority are taken to the VCU Medical Center Emergency Department; however, most serious injuries generally are taken to VCU Medical Center due to that ED's status as a level one trauma center. For years 2003 through 2006, rates of ED visits, based on the patient's zip code of residence, were mapped along with RAA violent injury event locations.

In 2007, similar to 2006, most RAA pick-ups took place in the central and northeastern areas of the city, which corresponded to zip codes with the highest rates of ED visits made by youth during this year.

2007 Violence-Related Injury Visits of Richmond City Youth to the VCU ED by Zip Code of Patient's Residence and RAA Violence-Related Events



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