Background

The Clark-Hill Institute of Positive Youth Development regularly examines trends of youth violence activities 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 2014 among youth 10-24 years of age. The RAA is the franchise granted by the City of Richmond to provide Emergency Medical Services (EMS).

The pick-up disposition (reason for the ambulance pick up) for each encounter was ascertained by 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 examined in fiscal years, starting July 1st and ending June 30th. 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 14,423 injury pick-ups between July 2001 and June 2014 involving 10-24 year olds. Approximately 20% of these pick-ups were due to violent injury. During the past 12-years, the highest violent injury ambulance pick-ups was observed in 2006 and remained relatively high through 2014 (Figure 1).

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

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

<table>
<thead>
<tr>
<th></th>
<th>FY02</th>
<th>FY03</th>
<th>FY04</th>
<th>FY05</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violence-related injury pick-ups (%)</td>
<td>138</td>
<td>127</td>
<td>62</td>
<td>152</td>
<td>283</td>
<td>212</td>
<td>265</td>
<td>312</td>
<td>246</td>
<td>290</td>
<td>299</td>
<td>254</td>
<td>240</td>
<td>2880</td>
</tr>
<tr>
<td></td>
<td>(20.3)</td>
<td>(22.0)</td>
<td>(11.5)</td>
<td>(22.3)</td>
<td>(29.4)</td>
<td>(23.2)</td>
<td>(21.3)</td>
<td>(21.8)</td>
<td>(22.3)</td>
<td>(17.6)</td>
<td>(16.4)</td>
<td>(16.1)</td>
<td>(16.6)</td>
<td>(20.0)</td>
</tr>
<tr>
<td>All injury pick-ups</td>
<td>679</td>
<td>578</td>
<td>538</td>
<td>682</td>
<td>963</td>
<td>913</td>
<td>1242</td>
<td>1433</td>
<td>1102</td>
<td>1647</td>
<td>1622</td>
<td>1576</td>
<td>1448</td>
<td>14423</td>
</tr>
</tbody>
</table>

Note: (%) indicates the percent of violence-related injury pick-ups among all injury pick-ups.
Trends of Violence-Related Richmond Ambulance Authority Pick-ups, 2002-2014

On average, a higher proportion of males (58%) was picked up by RAA for violence-related events, compared to females (42%). The proportion of males picked up ranged from 53% in 2001 to 68% in 2004 (Figure 2). The average age of males and females overall for was nearly identical (19.7 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).

Weapons-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 decrease in 2011 and subsequent gradual increase through 2014 (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). Comparisons across time should be done with caution due to the changes in reporting methods. For this analysis, stabbing, shooting or stab/gunshot were defined as weapon-related events.

Geographic Distribution

Consistent to previous years, most RAA pick-ups occurred in south, central, east and northeast part of the city (The map below shows 2014 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).

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For more information contact: Saba Masho, MD, MPH, DrPH at swmasho@vcu.edu or Diane Bishop, MPH at s2dlbelc@vcu.edu