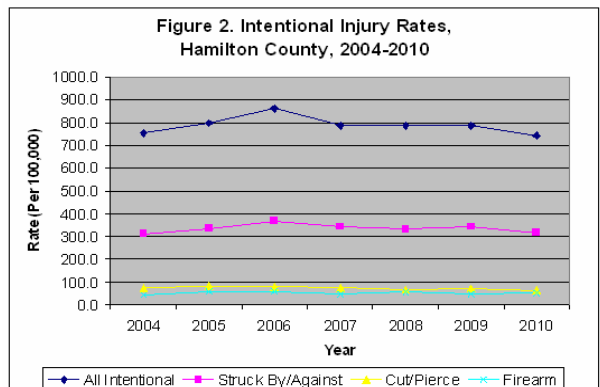
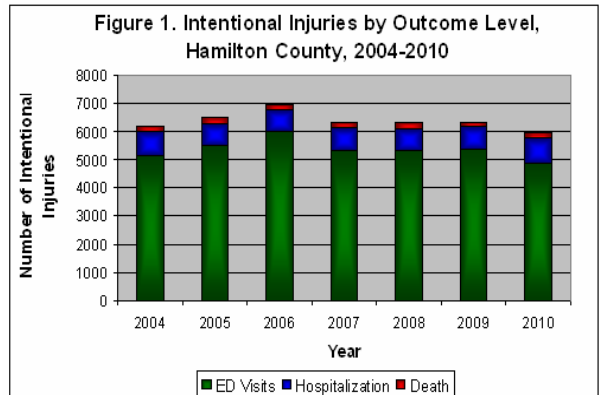


# Intentional Injuries Issue Brief

# Recent Trends

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Intentional injuries are injuries in which some type of harm was intended to occur. For example, a murder is classified as an intentional injury. Figure 1 illustrates the number of intentional injuries that occurred to Hamilton County residents from 2004 to 2010. As the figures shows, the majority of reported intentional injuries every year resulted in an emergency department visit (approximately 5,000 each year), while a small yet significant portion of the intentional injuries resulted in a death (approximately 180 each year). Annual rates for all intentional injuries and three specified mechanisms (struck by/against, cut/pierce, and firearms) are presented in Figure 2. Rates given in this issue brief were calculated per 100,000 Hamilton County residents. Struck by/against injuries comprised a much greater part of the intentional injury rate than cut/pierce or firearm injuries. Intentional injuries occurred at a rate between 743 to 863 injuries per 100,000 residents each year from 2004 to 2010.

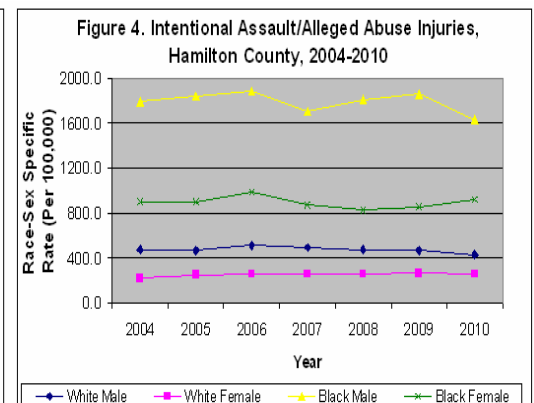
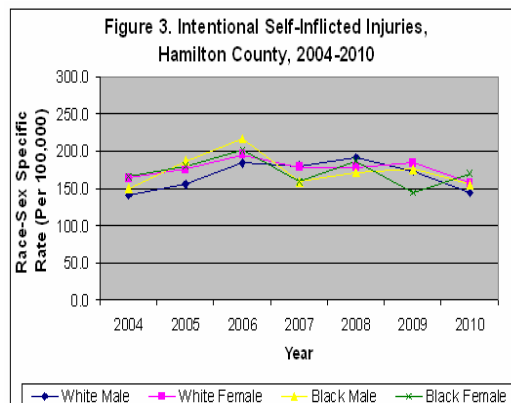


## Self-Inflicted Injuries vs. Assaults

After understanding what an intentional injury is and the overall distribution of these injuries in Hamilton County, it can be useful to divide intentional injuries into two distinct categories: self-inflicted and assaults. Self-inflicted intentional injuries are those injuries in which a person plans on causing harm to one's self, such as a suicide. Assaults, however, include actions that are

purposely directed toward another person to cause harm such as a shooting. Race/sex-specific rates of self-inflicted injury and assault are presented in Figures 3 and 4 respectively, for four groups: white males, white females, black males, and black females. Figure 3 shows that self-inflicted injury rates between the four groups were

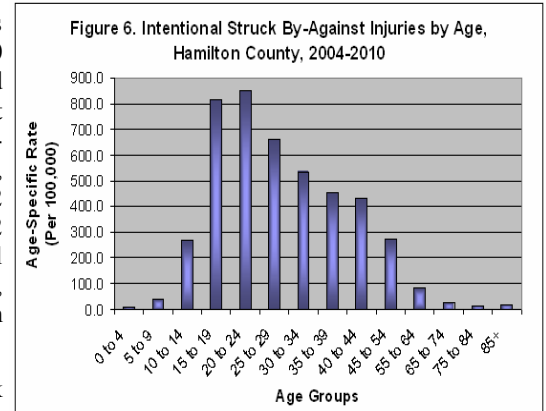
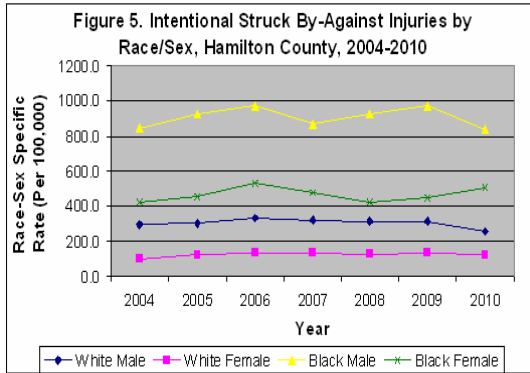
very similar to one another over the seven year period. The same cannot be said about assaults, as the data in Figure 4 show that black male residents had a much higher rate of experiencing an assault injury than the other demographic groups displayed.



# Struck By or Against Injuries in Hamilton County

From 2004 to 2010, the largest contributing mechanism of intentional injuries was the struck by/against group. This mechanism group consists of injuries such as being slapped, punched, beaten, hit by a blunt object, etc. Figure 5 illustrates the breakdown of struck by/against injuries in regards to race and sex of the individuals being injured. The data show that black male residents were injured most often out of any race/sex group due to struck

by/against injuries, with annual rates consistently above 800 per 100,000 residents. Black females experienced the second highest struck by/against injury rates (with annual rates ranging from 424 to 528 per 100,000), followed by white males (257 to 332 per 100,000), and white females (102 to 132 per 100,000). Peaks among all the race-sex groups occurred in 2006, followed by a second high point in 2009.



Rates of intentional struck by/against injuries varied significantly by age group in Hamilton County, as shown in Figure 6. The highest rate of intentional struck by/against injuries over the 2004 to 2010 period was experienced by people ages 20 to 24 (853 per 100,000), followed closely by the 15 to 19 age group (814 per 100,000). Injury rates steadily declined for older age groups. Of all the inten-

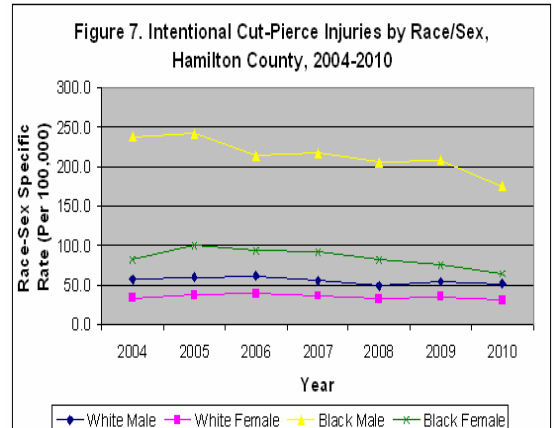
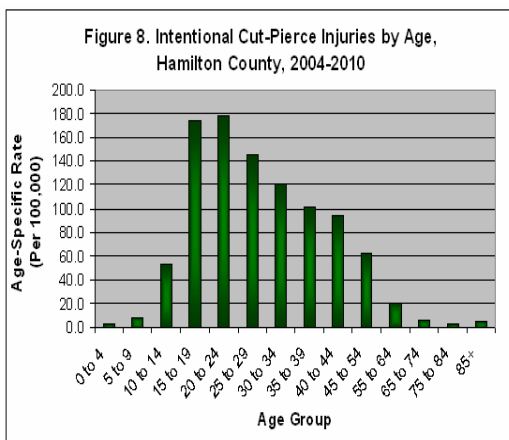
tional struck by/against injuries (N=18,938) that occurred from 2004 to 2010, 96.7 percent resulted in an emergency department visit, 3.1 percent required hospitalizations, and 0.2 percent were deaths. Through understanding which groups of residents are most likely to experience struck by/against injuries, an appropriate prevention response can be initiated.

# Cut or Pierce Injuries in Hamilton County

While not as frequent as intentional struck by/against injuries (N=18,938), intentional cut/pierce injuries (N=4,119) were still among the top of the most frequent intentional injuries among Hamilton County residents from 2004 to 2010. Cut/pierce injuries are caused from harm being inflicted through the use of an object slicing or entering the body such as scissors, a razor, a knife, or another sharp object. Figure 7 illustrates the specific rates for each race/sex. As with the aforementioned struck by/against injuries, cut/pierce intentional injuries were most frequent among black male residents (with annual rates

ranging from 175 to 241 per 100,000). Black female residents (with annual rates ranging from 64 to 100 per 100,000) had the second highest cut/pierce injury rates while white male residents (49 to 61 per 100,000) and white female residents (31 to 39 per 100,000) followed. Decreasing trends were present within each of the race-sex groups.

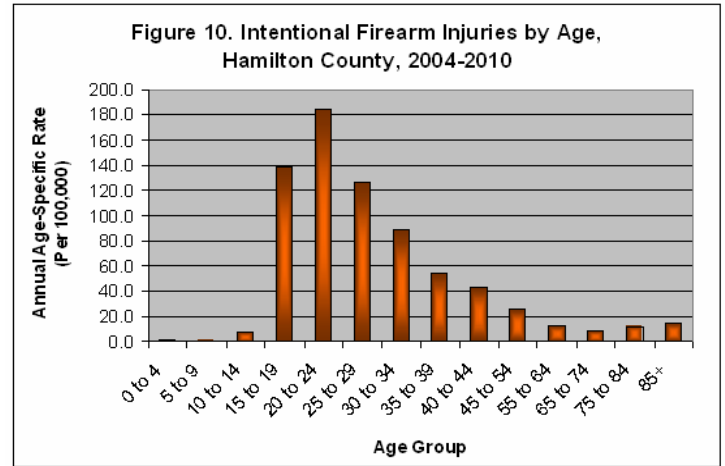
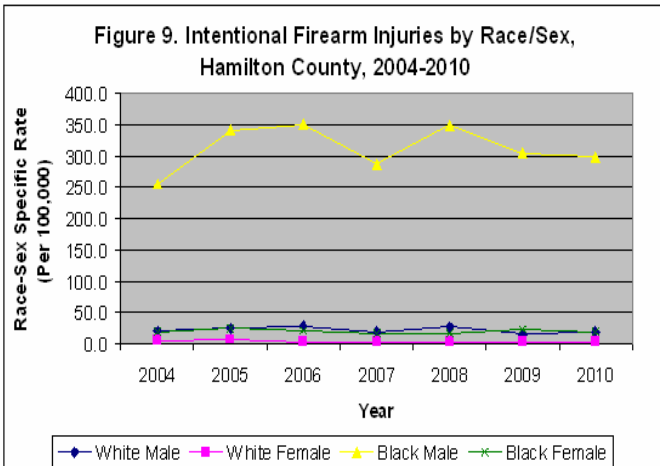
The age distribution of cut/pierce intentional injuries revealed interesting patterns as well. Figure 8 shows the annual average rate of intentional cut/pierce injuries by age



group for Hamilton County (2004 to 2010). Following a nearly identical pattern found within the struck by/against injuries, intentional cut/pierce injuries were most frequent among residents between the ages of 15 and 24. Residents in the 20 to 24 age group had the highest age-specific rate of intentional cut/pierce injuries (179 per 100,000), with the 15 to 19 age group trailing closely behind (174 per 100,000). The lowest specific rates were seen in the 75 to 84 (2 per 100,000) and 0 to 4 age groups (3 per 100,000). Intentional cut/pierce inju-

ries in Hamilton County resulted in more severe outcomes than intentional struck by/against injuries. Intentional cut/pierce injuries resulted in death in 1.5 percent of cases, a proportion over seven times higher than the comparable share of intentional struck by/against injuries (0.2%). These intentional cut/pierce injuries also had a higher percentage of injuries that resulted in hospitalization compared to struck by/against injuries (17.2% vs. 3.1% respectively). Knowing the demographic characteristics of the county's high-risk groups can help public health agencies and partners to tailor interventions to those groups.

# Firearm Injuries in Hamilton County



Intentional firearm injuries also played a crucial role in intentional injuries among Hamilton County residents from 2004 to 2010. Intentional firearm injuries were one of the top contributors to intentional injuries, but most importantly, accounted for the largest share of intentional injury deaths. Hamilton County residents suffered 2,930 intentional firearm injuries. Of those injuries, 25.8 percent (755) resulted in a death, 28.8 percent (845) resulted in a hospitalization, and 45.4 percent (1,330) resulted in an emergency department visit. These percentages indicate that intentional firearm injuries resulted in much more severe outcomes than any other mechanism of intentional injuries such as struck by/against or cut/pierce.

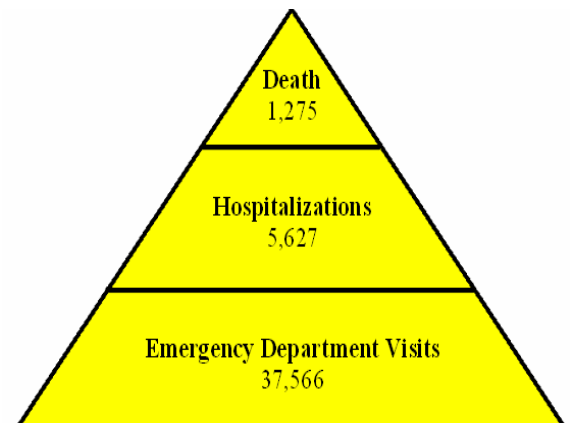
Out of the 1,275 intentional injuries from 2004 to 2010 that resulted in death, 59.2 percent (755) were from firearm injuries. The race/sex specific rates for intentional firearm injuries can be seen in Figure 9. Black males residing in Hamilton County experienced far higher rates of intentional fire arm injuries (257 to 351 per 100,000) than any other race/sex during the 2004 to 2010 period. Also, as Figure 9 illustrates, the rate of firearm injuries among black male residents was higher at the end of the period than it was at the beginning. Certain age groups were associated with higher rates of intentional firearm injuries than others within Hamilton County. Much like intentional struck by/against and cut/pierce injuries, the highest rates of

intentional firearm injuries occurred within residents aged 15 to 24. The 20 to 24 year age group had the highest overall rate of intentional firearm injury (184.6 per 100,000). The second highest rate was found among residents in the 15 to 19 year age group (139 per 100,000). Intentional firearm injuries had the lowest rates amongst children 0 to 9 years of age. As black male residents and residents between 15 to 24 years old had the highest rates of firearm injuries, preventive measures can be directed towards these risk groups to alleviate the burden of firearm injuries on Hamilton County.

## Where Does Public Health Get The Data?

The data used in this report were gathered from the Hamilton County Injury Surveillance System (HCISS). The HCISS is a collaborative surveillance effort led by Hamilton County Public Health and supported by our local hospitals, the Hamilton County Coroner's Office, and the Greater Cincinnati Health Council. Data on non-fatal intentional injuries were obtained from local hospitals/trauma registries and represent emergency department visits and hospitalizations (inpatients); data on fatal intentional injuries were obtained from the Hamilton County Coroner's Office. Figure 11 shows the breakdown of intentional injuries as reported through the HCISS.

The bottom layer, emergency department visits, represents the least severe injuries, yet the largest number of patients; the next two layers, hospitalizations and deaths, represent the most severe and costly injuries to residents of Hamilton County. An unknown number of unreported intentional injuries were not identified in the HCISS because these individuals did not seek medical care.



**Figure 11. Intentional Injury Pyramid, Hamilton County, 2004-2010**

# Making A Change: Awareness and Accessibility

A discouraging fact presented by the intentional injury data in this report, is that black male Hamilton County residents suffer a large disparity in regards to intentional injuries. For the community, health care systems, and public health to make an impact on this problem, Hamilton County must work to eliminate the disparities in social determinants of health that are driving these rates. Intentional injuries are preventable and often require awareness in order to make a difference in the community. This issue brief is one method of raising awareness regarding intentional injuries in the Ham-

ilton County community. The following are prevention resources available for targets of different types of intentional injuries.

*"Although children under 15 represent a small number overall, such intentional injuries towards defenseless children is unacceptable."  
- Dr. Richard Falcone, CCHMC*

#### National Suicide Prevention Lifeline:

(1-800-273-TALK)

[www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org)

#### Child Abuse:

(1-513-241-KIDS)

<http://www.hcjfs.hamilton-co.org/>

#### National Domestic Violence Hotline:

(1-800-799-SAFE)

[www.thehotline.org](http://www.thehotline.org)

## Healthy People 2020 Goals

The Healthy People 2020 goals were released in December 2010. Healthy People is a government organization that sets forth 10-year national objectives for improving the health of all Americans.<sup>1</sup> Many of these objectives are created by taking a 10% reduction of the rates from a previously measured rate gathered during Healthy People 2010. Specific objectives for intentional injuries are given by the Injury and Violence Prevention (IVP) goals 29, 31, and 41. Table 1 describes what these goals are and shows where Hamilton County stands in terms of reaching those goals as of 2010. As of 2010, Hamilton County was not meeting IVP 29, 31, or 41 goals. The 2010 homicide rate in Hamilton County was 9.7 per 100,000, much higher than the national goal of 5.5 per 100,000. When compared to the Healthy People 2020 goal, Hamilton County residents ex-

Goal	Hamilton County 2010
IVP 29: Reduce homicides to 5.5 per 100,000.	9.7 per 100,000
IVP 31: Reduce nonfatal firearm-related injuries to 18.6 per 100,000.	53.6 per 100,000
IVP 41: Reduce nonfatal intentional self-harm injuries to less than 112.8 per 100,000.	146.6 per 100,000

perienced nearly three times as many firearm-related injuries (18.6 per 100,000 vs. 53.6 per 100,000). Hamilton County was also above the 2020 goal of 112.8 nonfatal intentional self-harm injuries per 100,000 with a rate of 146.6 per 100,000. These Hamilton County numbers reflect

where Hamilton County stood in 2010. As more data are collected through HCSS, changes toward or away from these goals will be detected allowing for prevention methods to be measured and improved.

**For additional reports on injuries in Hamilton County, please visit:**

[http://www.hamiltoncountyhealth.org/en/resource\\_library/reports.html](http://www.hamiltoncountyhealth.org/en/resource_library/reports.html)

## References

<sup>1</sup>Healthy People 2020. *Injury and Violence Prevention: Objectives.*

<http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=24>. (Accessed December 2011).