



Fairfax County Health Department
10777 Main St., Suite 203
Fairfax, VA 22033
Phone: 703-246-2411
Fax: 703-653-1347

Youth Suicide Surveillance Summary

Fairfax County, Virginia

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SUMMARY

Following the CDC Epi-Aid in late 2014 that examined youth suicides in Fairfax County, the Fairfax County Health Department (FCHD) has heightened surveillance efforts to detect significant changes in youth suicide trends in Fairfax County. The purpose of this report is to display the frequency of fatal and non-fatal suicidal behaviors and associated risk among youth in Fairfax County, Virginia with recent data.

This report gives summary data from four sources. The two fatal sources of data were *Virginia Violent Death Reporting System (VVDRS)* and the *Virginia Office of the Chief Medical Examiner (OCME)*. The two non-fatal behaviors data sources were the *Virginia Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE)* and the *Fairfax County Fire and Rescue's Emergency Medical Services (EMS)*.

VVDRS Findings (*Virginia Violent Death Reporting System*)

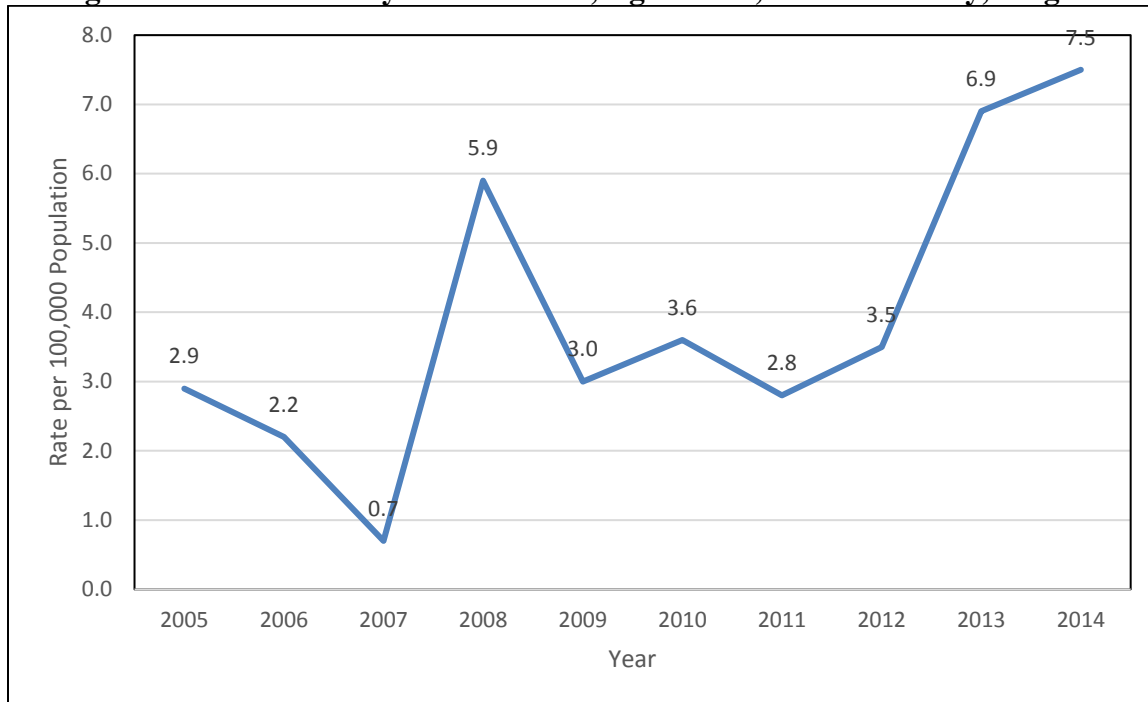
Virginia VDRS provided updated suicide rates for Fairfax County, Virginia (see Table 3). The overall suicide rate in Fairfax County for youths aged 10 and older in 2005-2014 was 10.0 per 100,000 persons. The rate for 10 to 19 year olds was 3.9, and the rate for 20 to 24 year olds was 12.8 per 100,000. Suicide rates for all age youth groups in Fairfax County, Virginia are lower than the overall national suicide rate for 2005-2014 (see Table 1), however recent trends from 2011-2014 suggest an increase throughout Fairfax County.

Table 1. Fairfax County Suicide Rates (per 100,000 persons) by Age Group, 2005-2014

Age Group	Fairfax County Suicide Rate	National Suicide Rate
Overall (10+ years)	10.0	14.1
10-19 years	3.9	4.6
20-24 years	12.8	13.2

The rate of suicide among 10-19 year olds was examined during an Epi-Aid investigation (conducted in November 2014) to examine suicides in the student population (see Figure 1). Updated data for this age group are presented in Figure 1. It should be noted that these rates were calculated with fewer than 20 cases. Therefore, the findings in Figure 1 may be unstable and should be interpreted with caution. The rates of suicide among 10 to 19 year olds fluctuated substantially across years and ranged from 0.7 per 100,000 in 2007 to 7.5 per 100,000 in 2014.

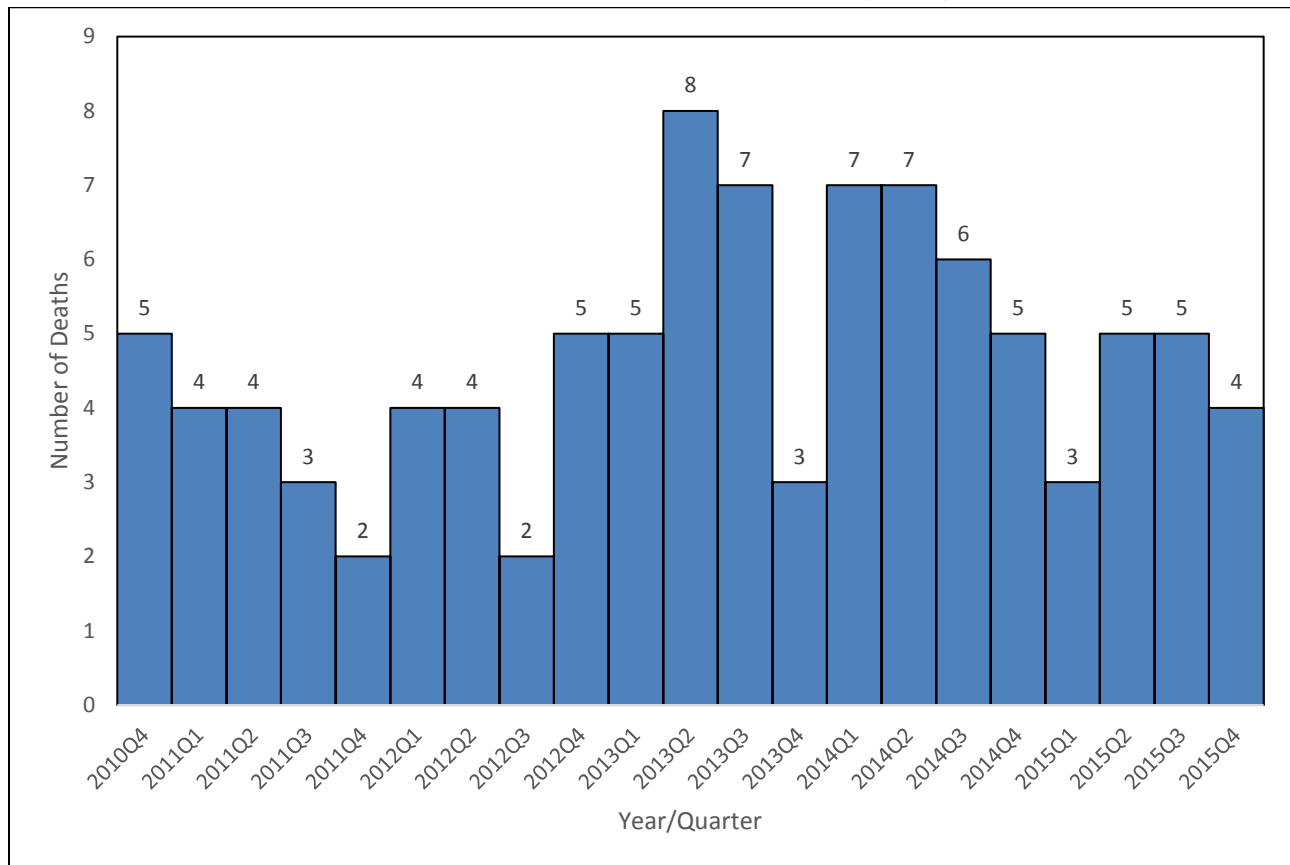
Figure 1. Fairfax County Suicide Rates, Ages 10-19, Fairfax County, Virginia



OCME Findings (*Virginia Office of the Chief Medical Examiner*)

The epi-curve for suicide deaths among youth from October 2010 through December 31, 2015 is presented in Figure 2 (Data for 2014 and 2015 are currently being investigated and finalized. No further information is available at this time. Data for 2013, 2014, and 2015 are preliminary and subject to change.). During this time period, there were 98 deaths by suicide among youth aged 10 to 24. Data from the OCME was used to describe decedents from January 1, 2014 to present.

Figure 2. Number of Youth Suicide (10-24) in Fairfax Health District by Quarter and by Year of Death: October 2010-December 2015 (N=98)



Among 91 decedents where information was available, the majority were male (70.3%; n = 64); over half were youth between the ages of 20 and 24 (53.8%; n = 49). The two most common methods of suicide were hanging (51.6%; n = 47) and gunshot wound (33.0%; n = 30). These findings are consistent with national trends for suicide deaths (Centers for Disease Control and Prevention, Web-based Injury Statistics Query and Reporting, 2015). Toxicology results at autopsy indicated 22 decedents (24.1%) tested positive for alcohol and 35 decedents (38.5%) tested positive for other drugs.

Ninety-one medical examiner reports on youth suicide were available from October 2010- December 2015. Circumstances fell into the following categories: mental health/substance abuse, suicide event, interpersonal or relationship, and life stressors. Suicide event circumstances documented included: current treatment for mental health (22.4%; n = 22), left suicide note (33.0%; n = 30), and disclosed intent of suicidal thoughts and/or to commit suicide (69.2%; n = 63). Under life stressor circumstances, 22.0% (n = 20) of decedents had a documented school problem, such as academic probation and suspension. A table summarizing circumstances from both VVDRS and OCME data is shown below in Table 2.

Table 2. Number and Percentage of Youth Suicide (10-24) in Fairfax Health District¹, by Selected Circumstances: October 2010-December 2015² (N=91)

Circumstance ³	#	%
Current Mental Health Problem ⁴	52	57.1%
Treatment for Mental Health⁵		
Non-Current Treatment for Mental Health	40	44.0%
Current Treatment for Mental Health	22	24.2%
History of Suicide Attempts	63	69.2%
History of Suicidal Thoughts or Plans	64	70.3%
Recent Disclosure of Suicidal Thoughts or Intent ⁶	63	69.2%
Left a Suicide Note	30	33.0%
Problem with Other Substances	24	26.4%
School Problem ⁷	20	22.0%
Problem with Alcohol	7	7.7%

¹ Fairfax Health District includes Falls Church City, Fairfax City, and Fairfax County.

² Data for 2014 and 2015 are currently being investigated and finalized. No further information is available at this time. Data for 2013, 2014, and 2015 are preliminary and subject to change.

³ Multiple circumstances can be endorsed for a decedent. The total number of circumstances may not total to the number of decedents.

⁴ Mental Health Problem describes when a decedent had a diagnosed mental illness at the time of their death. Examples include: depression, bipolar, Attention Deficit Disorder, Post-Traumatic Stress Disorder, etc.

⁵ Current treatment is used to describe a decedent who was in treatment for mental health or substance abuse within two months of their death. Non-current treatment is used to describe a decedent who received treatment for mental health or substance abuse, but not within two months of their death.

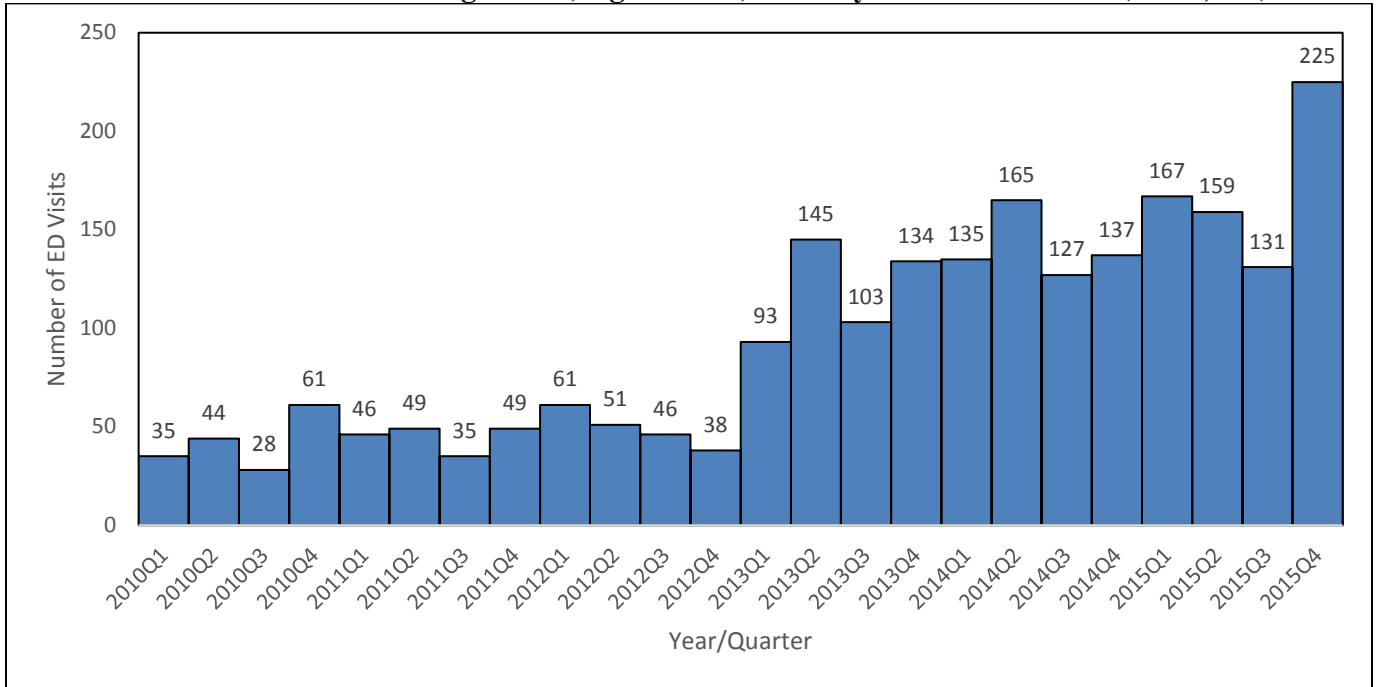
⁶ Decedents who recently disclosed intent are also considered to have a history of suicidal thoughts or plans.

⁷ School Problem is defined as problems at or related to school which appear to have contributed to the suicide.

ESSENCE Findings (*Electronic Surveillance System for the Early Notification of Community-Based Epidemics*)

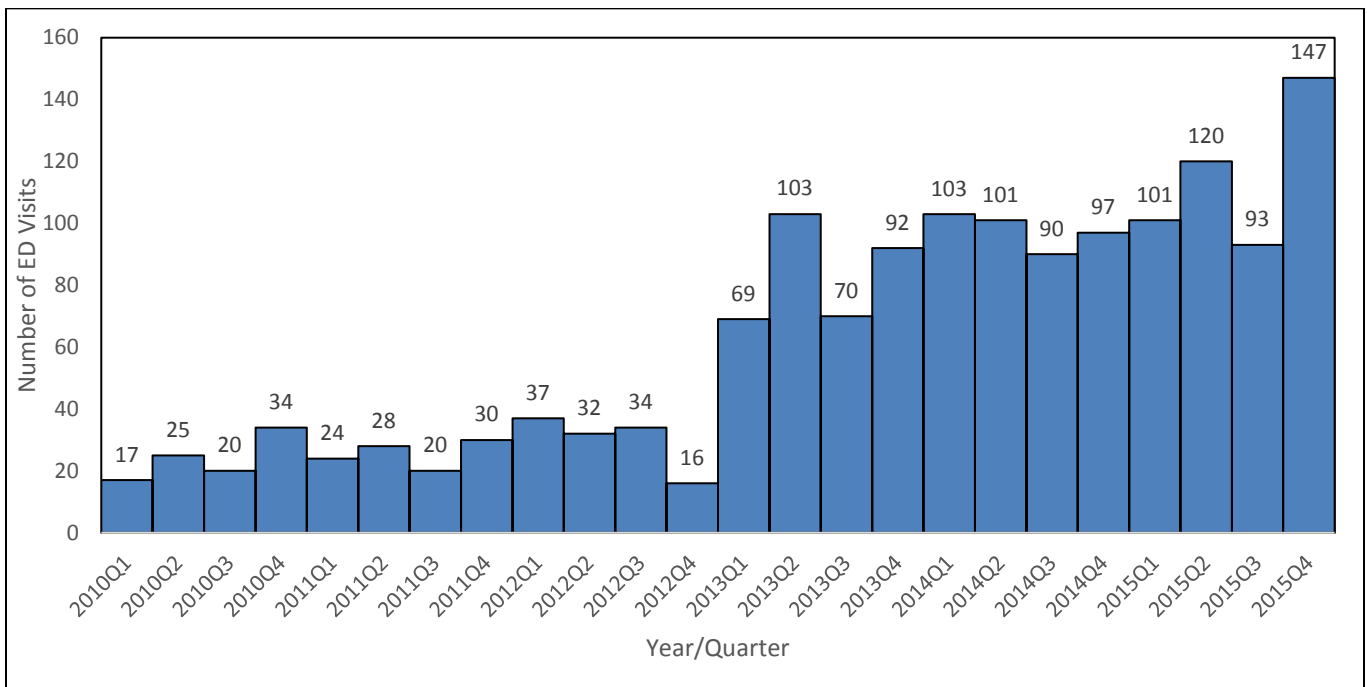
There were 2,264 Emergency Department (ED) visits with the chief complaint of suicidal behaviors or ideation identified between January 2010 and December 2015. The epi-curve below (Figure 3) illustrates how that the number of visits doubled between the 4th quarter of 2012 and the 1st quarter of 2013. The higher number of ED visits was sustained through the end of 2015.

Figure 3. Number of Emergency Department Visits With Chief Complaint of Suicidal Behaviors/Ideation Among Youth, Ages 10–24, January 2010 – December (N = 2,264)



It is important to note that new facilities contribute data to ESSENCE over time, and this should be considered as a possible reason for the observed increase in ED visits. However, when looking at ED visits to Inova Fairfax Hospital (Figure 4) only, a hospital that accounted for 66.4% of all visits from January 2010 through December 2015 (n = 1,503), the same pattern emerges.

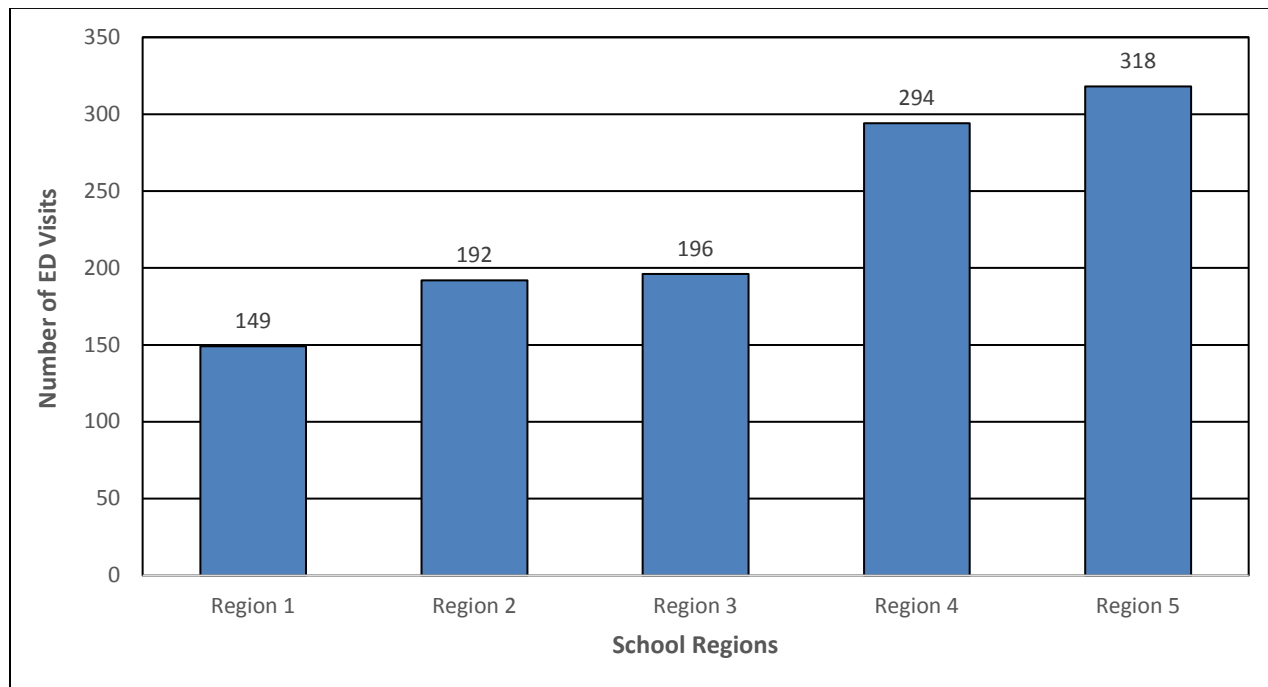
Figure 4. Number of Emergency Department Visits With Chief Complaint of Suicidal Behaviors/Ideation at Inova Fairfax Hospital Among Youth, Ages 10–24, January 2010 – December 2015 (n = 1,503)



While the data do not allow for definitive explanations of this increase, possible explanations for this increase could include postvention activities in the community, as well as media coverage that increased community members' level of awareness of suicide-related behaviors. Of youth who were treated in the ED for suicide behaviors/suicidal ideation, the majority were white (58%; n = 964), female (64%; n = 1454), and between the ages of 10 and 19 (66%; n = 1501). Over half (57%; n = 1210) of all youth who visited the ED were discharged, while only 23% (n = 484) were transferred and 20% (n = 433) were admitted.

Suicide-related ED visits among 15 to 19 year olds (N = 1149) were also examined by school regions. School boundaries provided in a geographical information system file provided by FCPS and zip codes were used to categorize school region. It should be noted that some zip codes overlap school boundaries and it is possible some ED visits were misclassified. However, this error is likely equally distributed across regions and should not impact the overall interpretation of the data. The distribution of suicide-related emergency departments by school region is shown in Figure 5 below. Region 5 had the most visits (n = 318), while Region 1 had the fewest (n = 149).

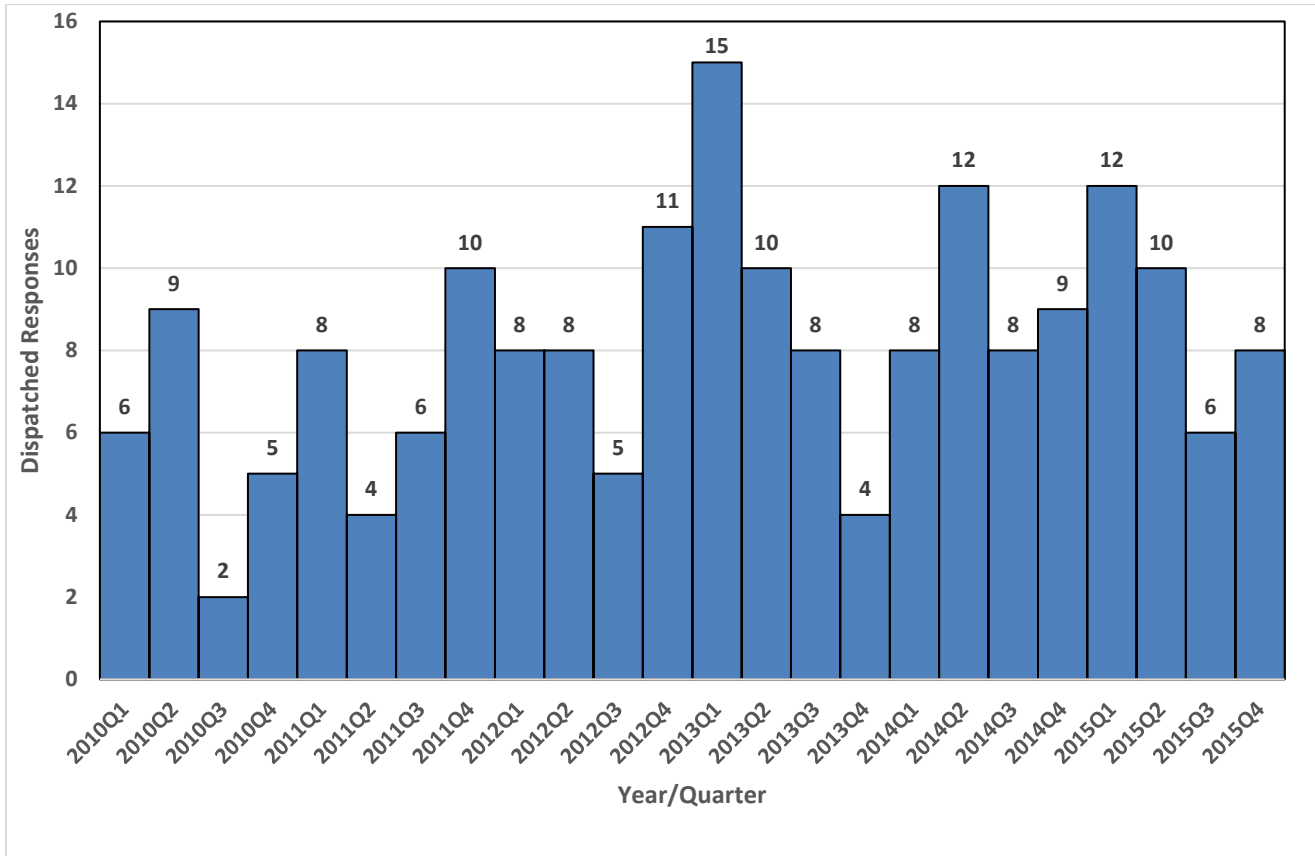
Figure 5. Number of Emergency Department Visits With Chief Complaint of Suicidal Behaviors/Ideation by Fairfax County School Region, Ages 15–19, January 2010 – December 2015 (n = 1,149)



EMS Findings *(Fairfax County Fire and Rescue's Emergency Medical Services)*

Data from the Fairfax County Fire and Rescue EMS provided information about the number of dispatched suicide-related behaviors/suicidal ideation responses. From January 2010 through December 2015, there were a total of 1349 responses among all ages. The age of individuals who received services from EMS for suicide-related behaviors/suicidal ideation was only available for 908 responses. The epi-curve of dispatched suicide responses among youth aged 10-19 years (N = 191) from January 2010 through December 2015 by quarter is provided below (See Figure 6).

Figure 6. Number of Dispatched Suicide Responses by Fairfax County EMS, Ages 10–19, January 2010 – December 2015 (n = 192)



Among dispatched suicide responses among the 312 youth aged 10-24, 58.3% were for females and 61.2% were for youth between the ages of 10 and 19. The most common primary complaint of the dispatched responses was psychiatric problems (23.6%; n = 74) followed by traumatic injury (8.0%; n = 25). The majority of youth were treated and transported (77.6%; n = 243), 12.8% (n = 40) refused treatment or transport, and 6.7% (n = 21) were pronounced dead at the scene.