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Youth Suicide Surveillance Summary

Fairfax County, Virginia

2017 Update

SUMMARY

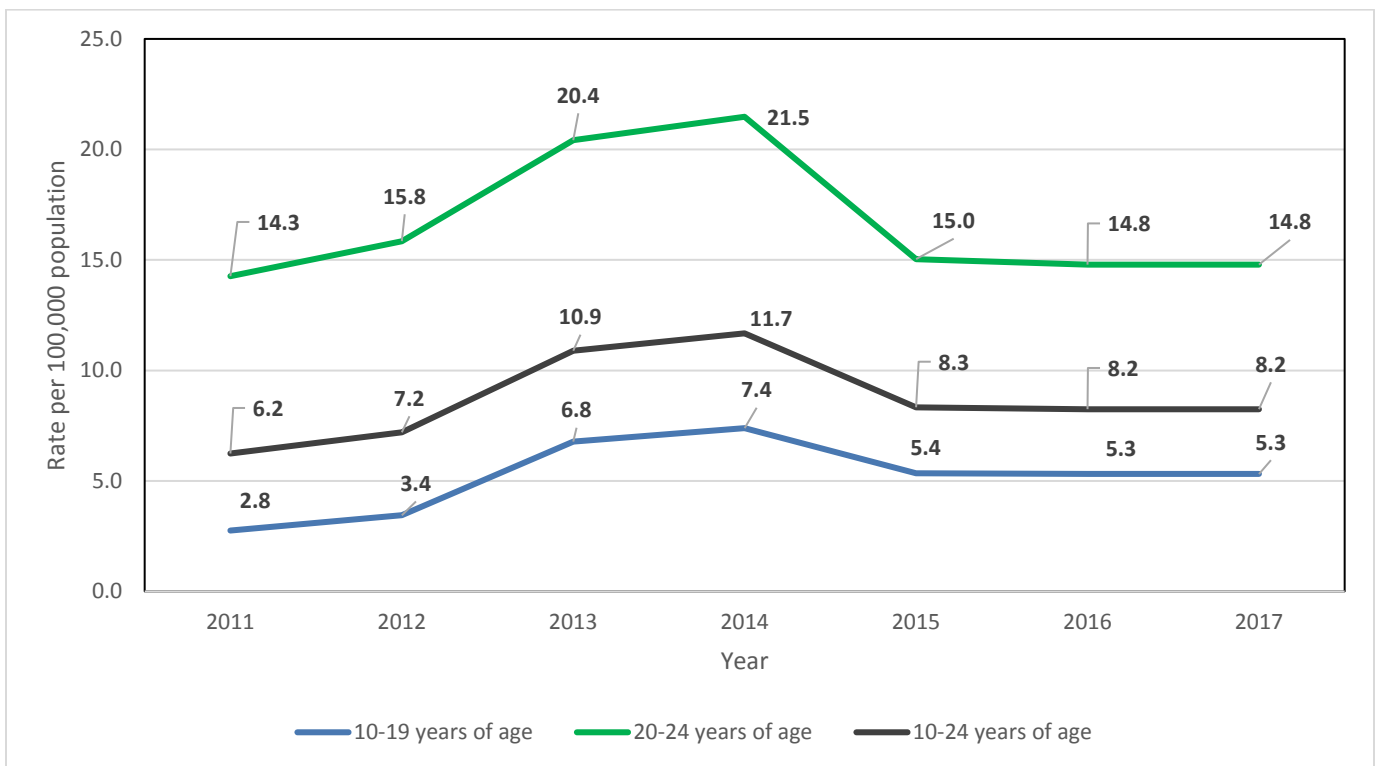
Following the CDC Epi-Aid in late 2014 that examined youth suicides in Fairfax County, the Fairfax County Health Department (FCHD) has heightened surveillance efforts monitor youth suicide trends in Fairfax County. The purpose of this report is to update previous reports on the frequency of fatal and non-fatal suicidal behaviors among youth in Fairfax County, Virginia, by including data from 2017.

This report gives summary data from three sources. The two sources of data for fatal events were *Virginia Violent Death Reporting System (VVDRS)* and the *Virginia Office of the Chief Medical Examiner (OCME)*. The one data source for non-fatal behaviors were the *Virginia Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE)*. All rates were calculated with American Community Survey annual population estimates. For years where data was not available, the most recent year's data was used as a substitute for that year's population estimate.

Suicide Rates-VVDRS Findings (*Virginia Violent Death Reporting System*)

Virginia VVDRS provided updated suicide rates for the Fairfax Health District, Virginia. In 2017, the rate of suicide among persons 10–24 years old in Fairfax Health District was 8.2 per 100,000 persons (18 total deaths); both the rate and number are relatively unchanged from the previous two years (Figure 1). Because of the limited number of deaths, a small change in that number would have a large impact on population rates and should be interpreted with caution. The greatest change in rates between 2011 and 2017 of suicide among the adolescent and young adult population occurred among 10 to 19 year olds. The rate in this group peaked in 2014 at 7.4 per 100,000 and remained stable at 5.3 per 100,000 in 2016 and 2017. Across the 7-year period, the change in rate from 2.8 to 5.3 per 100,000 represents an almost two-fold increase compared with a much smaller change among 20–24 year olds.

Figure 1. Youth Suicide Rates By Age Groups, Fairfax Health District, Virginia, 2011–2017



The overall suicide rate in Fairfax Health District for youths aged 10–24 in 2011–2017 was 8.7 per 100,000 persons. The rate for 10 to 19 year olds was 5.2, and the rate for 20 to 24 year olds was 16.6 per 100,000. The suicide rate for those aged 20–24 is slightly higher than national suicide rate, but the rate for those aged 10–19 and for the entire age group (10–24) in Fairfax are lower than the national suicide rates for 2016 (see Table 1).

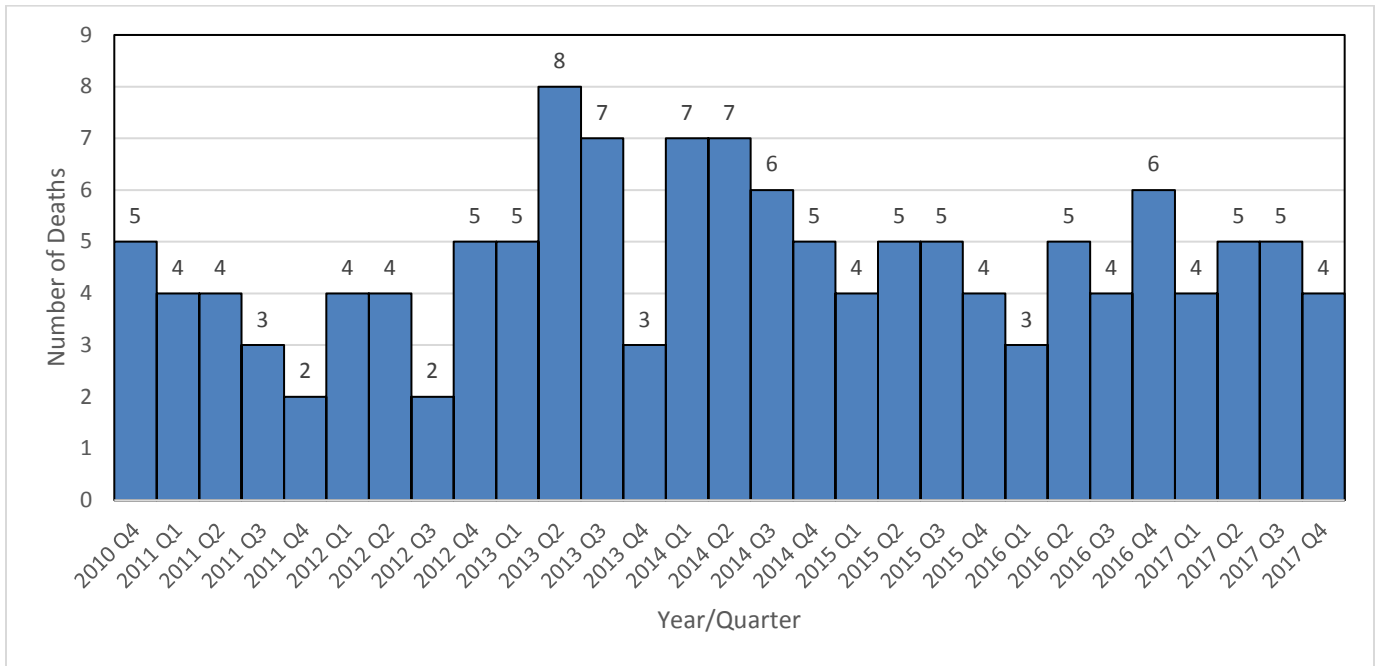
Table 1. Suicide Rates (per 100,000 persons) by Age Group, Fairfax Health District 2011–2017

Age Group	Fairfax Health District Suicide Rate	National Suicide Rate (2016 Data)
Overall (10-24 years)	8.7	9.6
10-19 years	5.2	6.1
20-24 years	16.6	16.1

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

The quarterly data for suicide deaths among adolescents and young adults from October 2010 through December 31, 2017 are presented in Figure 2. During this period, there were 135 deaths by suicide among persons aged 10 to 24 years, with 18 deaths occurring in 2017. Since the peak of 25 deaths in 2014, the number of suicide deaths has remained stable (18 suicides in each year 2015 -2017).

Figure 2. Number of Youth Suicide (10–24) in Fairfax Health District by Quarter and by Year of Death: October 2010–December 2017 (N=135)



Among the decedents from October 2010–December 2017 where information was available, the majority were male (73.2%; n = 93); over half were young adults between the ages of 20 and 24 (54.3%; n = 69), reflecting the higher rate in this population. The two most common methods of suicide were hanging (56.6%; n = 64) and gunshot wound (35.4%; n = 40). These findings are consistent with national data for suicide deaths (Centers for Disease Control and Prevention, Web-based Injury Statistics Query and Reporting, 2016). Toxicology results at autopsy indicated 28 decedents (25.0%) tested positive for alcohol and 44 decedents (39.3%) tested positive for other drugs.

Ninety-one medical examiner reports on youth suicide were available from October 2010–December 2015 (VVDRS data are not finalized past 2015, therefore 2016 and 2017 will be provided in future reports). Characteristics/circumstances of the suicide 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 Characteristics/Circumstances: October 2010-December 2015² (N=91)

Characteristics/Circumstance of Suicide ³	#	%
Mental Health		
-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%

Characteristics/Circumstance of Suicide ³	#	%
Substance Abuse		
-Problem with Alcohol	7	7.7%
-Problem with Other Substances	24	26.4%
Life Stressor		
-School Problem ⁷	20	22.0%

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

² Data for 2016 and 2017 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 (VVDRS Data).

³ Multiple characteristics/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.

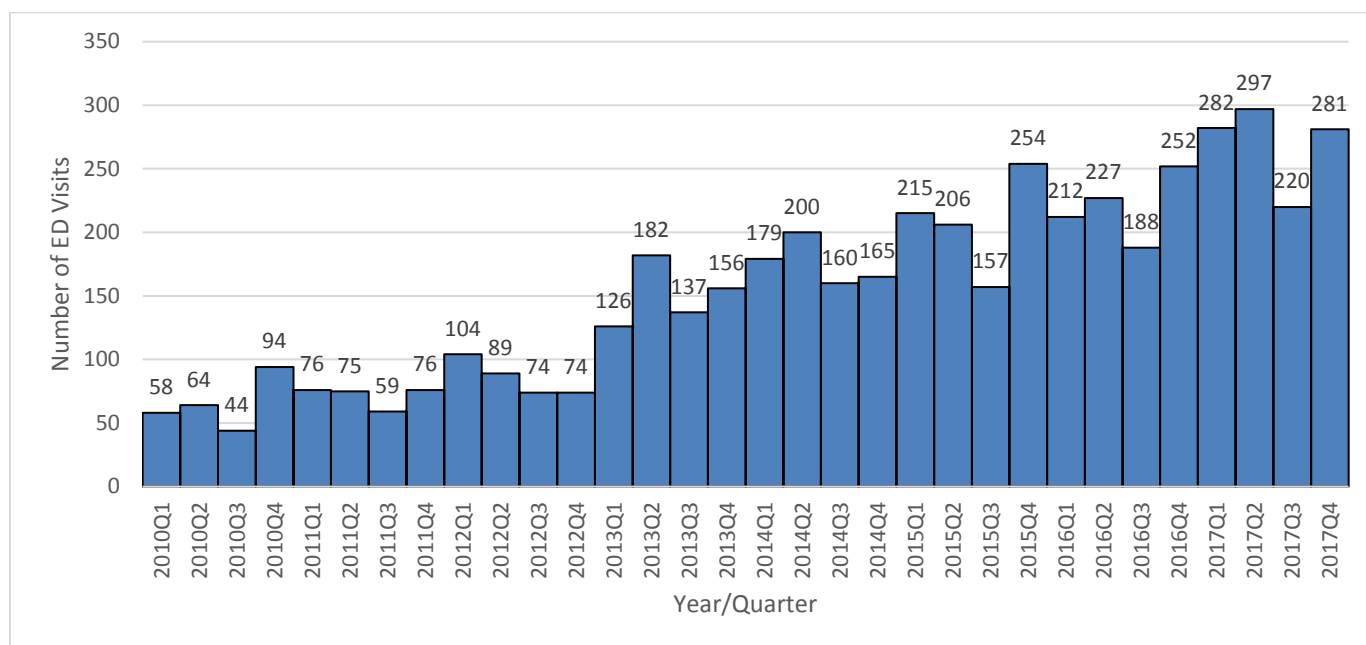
⁶ Decedents who recently disclosed intent are also considered to have a history of suicidal thoughts or plans.

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

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

There were 5,243 Emergency Department (ED) visits with the chief complaint of suicidal behaviors or ideation identified between January 2010 and December 2017 for those aged 10–24 (Figure 3). As displayed in the figure, the number of ED visits for suicidal behaviors or ideation has increased every year from 2010, peaking with over 1000 visits in 2017 (1080 visits).

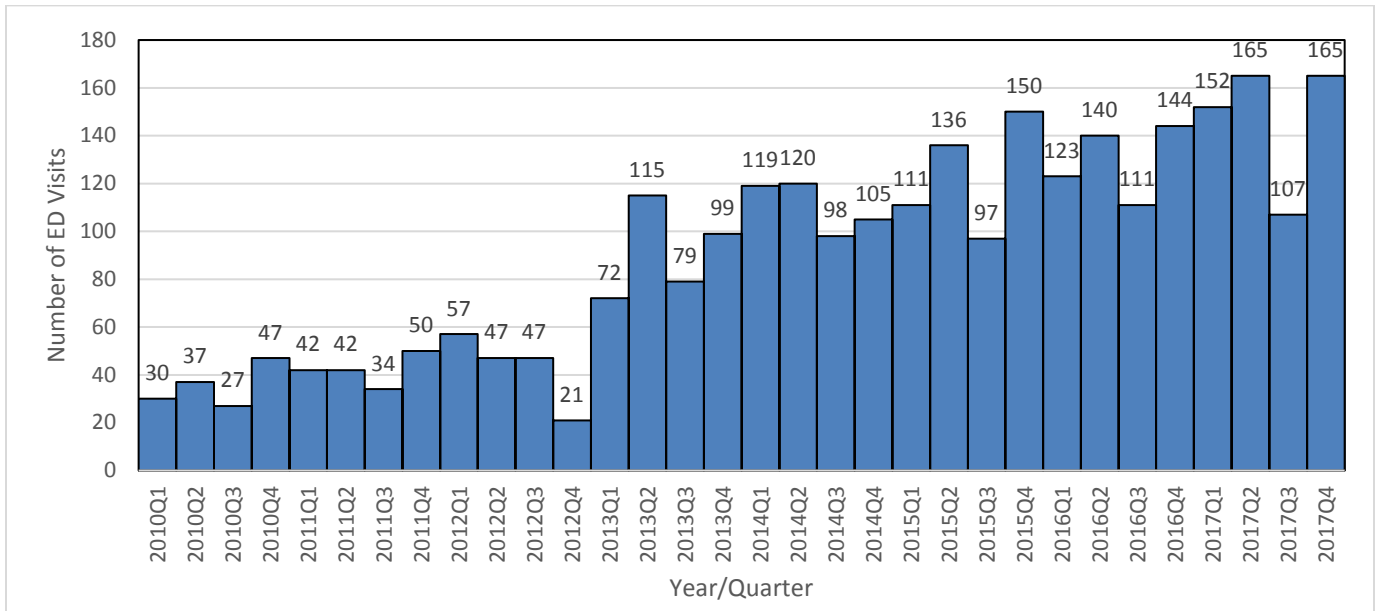
Figure 3. Number of Emergency Department Visits With Chief Complaint of Suicidal Behaviors/Ideation Among Youth, Ages 10–24, January 2010–December 2017 (N = 5,243)



It is important to note that an increasing number of facilities provided data to ESSENCE over time and this could contribute to the observed increase in ED visits over time. However, when looking at ED visits

to Inova Fairfax Hospital only (Figure 4), a hospital that accounted for 57.5% of all visits from January 2010 through December 2017 (n = 3014), the same pattern emerges suggesting that the increase overall is not an artifact of an increasing number of surveillance sites.

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 2017 (n = 3,014)



Further examination of the data also reveals that when comparing ED visits for suicide ideation versus attempt, the number of visits for each increased at a similar rate over the last three years (2015–2017). These proportions have been relatively unchanged over the same time period, with approximately 70% of visits for ideation, 15% for attempts, and 15% unable to differentiate between the two. While the data do not allow for more definitive explanations of this increase, possible explanations could include 1) a true increase in the number of suicide-related events occurring in the community, or 2) a higher proportion of suicide-related events that result in an ED visit as a result of increased awareness about suicide among Fairfax community members.

Of youth who were treated in the ED for suicide behaviors/suicidal ideation, the majority were white (41.7%; n = 2186), female (64.0%; n = 3354), and between the ages of 10 and 19 (66.1%; n = 3464). Almost half (48.7%; n = 2432) of all youth who visited the ED were discharged, while only 23.9% (n = 1193) were transferred (to another healthcare/mental health facility) and 18.5% (n = 923) were admitted. Among ED visits for suicide attempts and suicidal ideation with documented self-harm, the majority of visits were for overdoses (64.9% of visits when details were available).

Suicide-related ED visits among 15 to 19 years old adolescents (n = 2,600) were also examined by school regions. School boundaries were 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 ED visits by school region is shown in Figure 5. Region 4 had the most visits (n = 638), while Region 3 had the fewest (n = 430)

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 2017 (n = 2,549)

