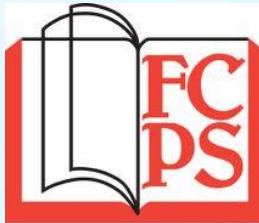


# Investigation of Undetermined Risk Factors for Suicide Among Youth, Ages 10–24 — Fairfax County, VA, 2014

Exit Briefing  
June 23, 2015



The findings and conclusions in this presentation are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the Substance Abuse and Mental Health Services Administration.



National Center for Injury Prevention and Control  
Division of Violence Prevention



## **Welcome and Introductions**

- **Centers for Disease Control and Prevention (CDC)**
- **Substance Abuse and Mental Health Services Administration (SAMHSA)**
- **Fairfax County**
- **Virginia Department of Health**

## **Exit Briefing**

- **CDC & SAMHSA: Overview of Final Report**
- **Fairfax County Health Department & Fairfax County Public Schools: Next Steps**
- **Discussion**

# OVERVIEW OF FINAL REPORT

This presentation highlights findings from the final report. For more information, please review the final report document.

# Acknowledgements

**Fairfax County Parents**  
**Fairfax County Public Schools Principals & DSS**  
**Fairfax County Health Department**  
**Virginia Department of Health**  
**Fairfax County Public Schools**  
**Virginia OCME**  
**Virginia VDRS**  
**Fairfax County Fire & Rescue**  
**Community Service Board**  
**Fairfax County Epi-Aid Advisory Group**  
**CDC**  
**SAMHSA**

# The Problem

- **Public Concern**
  - 16 deaths by suicide in 2014 among youth
  - Mass and social media attention
  - Unidentified risk factors
- **Notification**
  - October 2014
  - 3 deaths by suicide among youth



## Epi-Aid

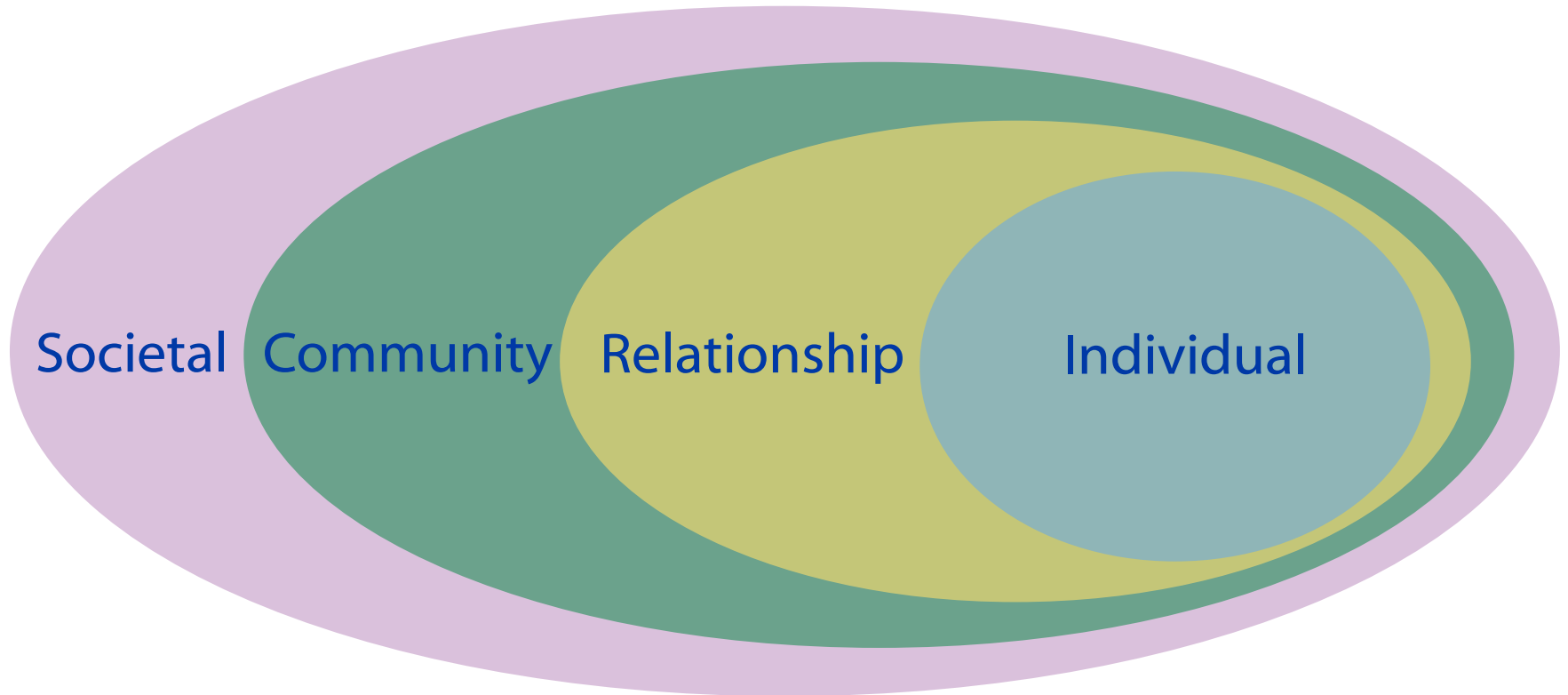
- **Definition:** Investigations of serious and urgent public health problems in response to formal request for rapid assistance

## **Epi-Aid Approach**

- **Community and multi-school approach in Fairfax County**
- **Public Health Approach**
- **Social Ecological Framework**



# Risk and Protective Factors: A Social Ecological Framework



Dahlberg, L. L., & Krug, E. G. (2002). Violence – a global public health problem. In Krug, E., Dahlberg, L. L., Mercy, J. A., Zwi, A. B., & Lozano, R. (Eds.). *World report on violence and health* (pp. 1-56). Geneva, Switzerland: World Health Organization.

# Investigation Objectives

- **Examine trends of fatal and non-fatal suicidal behaviors among youth**
- **Identify risk and protective factors associated with fatal and non-fatal suicidal behaviors among youth**

# Trends in Fatal and Non-Fatal Suicidal Behaviors Among Youth



Espitia-Hardeman, V., & Paulozzi, L. (2005). Injury surveillance training manual. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Retrieved from: [http://www.cdc.gov/injury/pdfs/Participant\\_Guide.pdf](http://www.cdc.gov/injury/pdfs/Participant_Guide.pdf).

# **Trends in Fatal and Non-Fatal Suicidal Behaviors Among Youth**

- **Virginia Violent Death Reporting System (VDRS)**
- **Virginia Office of the Chief Medical Examiner (OCME) Data**
- **Virginia Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) Data**
- **Fairfax County Fire & Rescue's Emergency Medical Services (EMS) Data**

# Trends in Fatal and Non-Fatal Suicidal Behaviors Among Youth

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# Trends in Fatal and Non-Fatal Suicidal Behaviors Among Youth

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- Fairfax County Fire & Rescue's Emergency Medical Services (EMS) Data

# Virginia VDRS Data: Fairfax County Suicide Rate by Age Group, 2003-2012

Age Group	Fairfax County Suicide Rate	National Suicide Rate
Overall (10+ years)	7.9	13.5
10-19 years	3.3	4.4
20-24 years	10.0	12.9

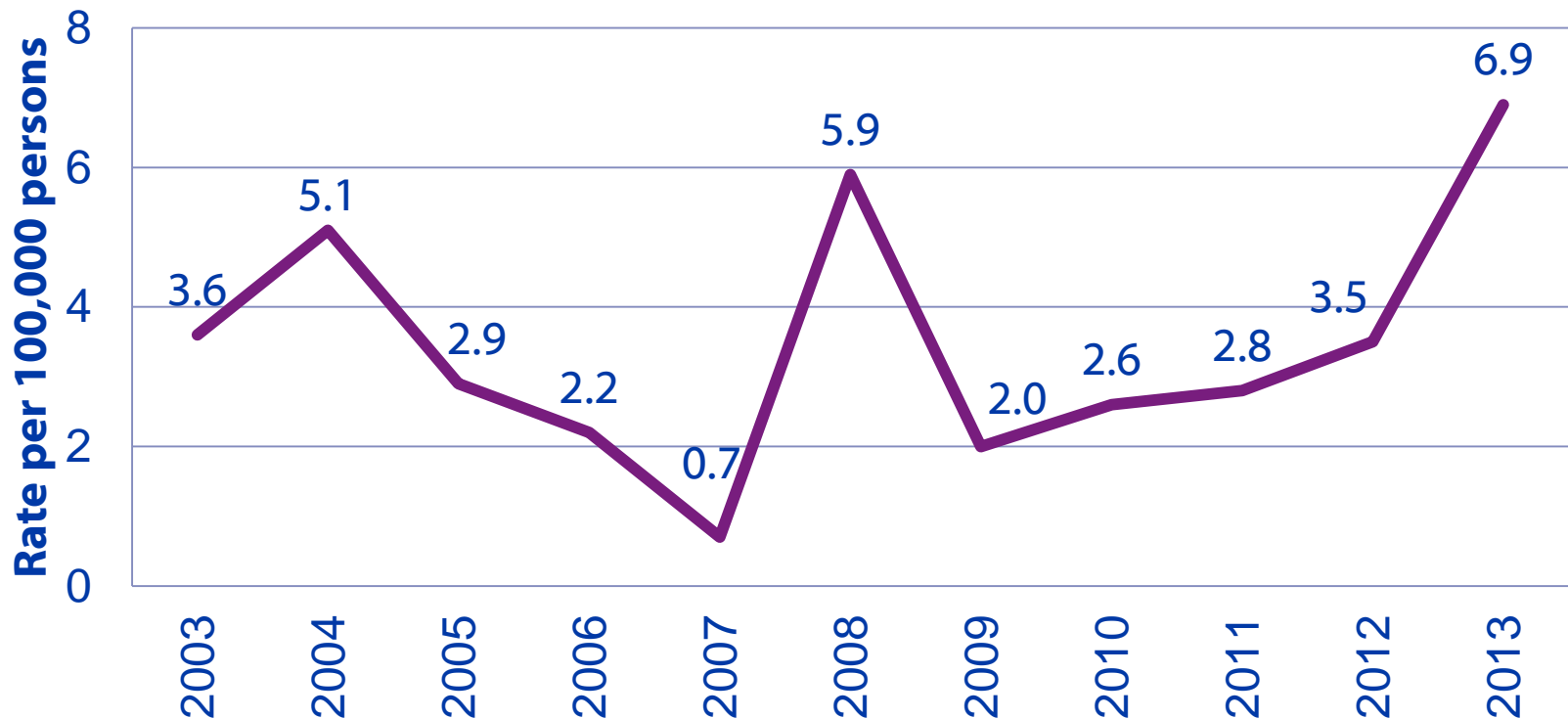
\*per 100,000 persons

Virginia Department of Health, Office of the Chief Medical Examiner, Virginia Violent Death Reporting System. A National Violent Death Reporting System project.

CDC Web-based Injury Statistics Query and Reporting System. [www.cdc.gov/injury/wisqars/index.html](http://www.cdc.gov/injury/wisqars/index.html)

# Virginia VDRS Data: Fairfax County Suicide Rate, Ages 10–19

## Ages 10-19 Fairfax County



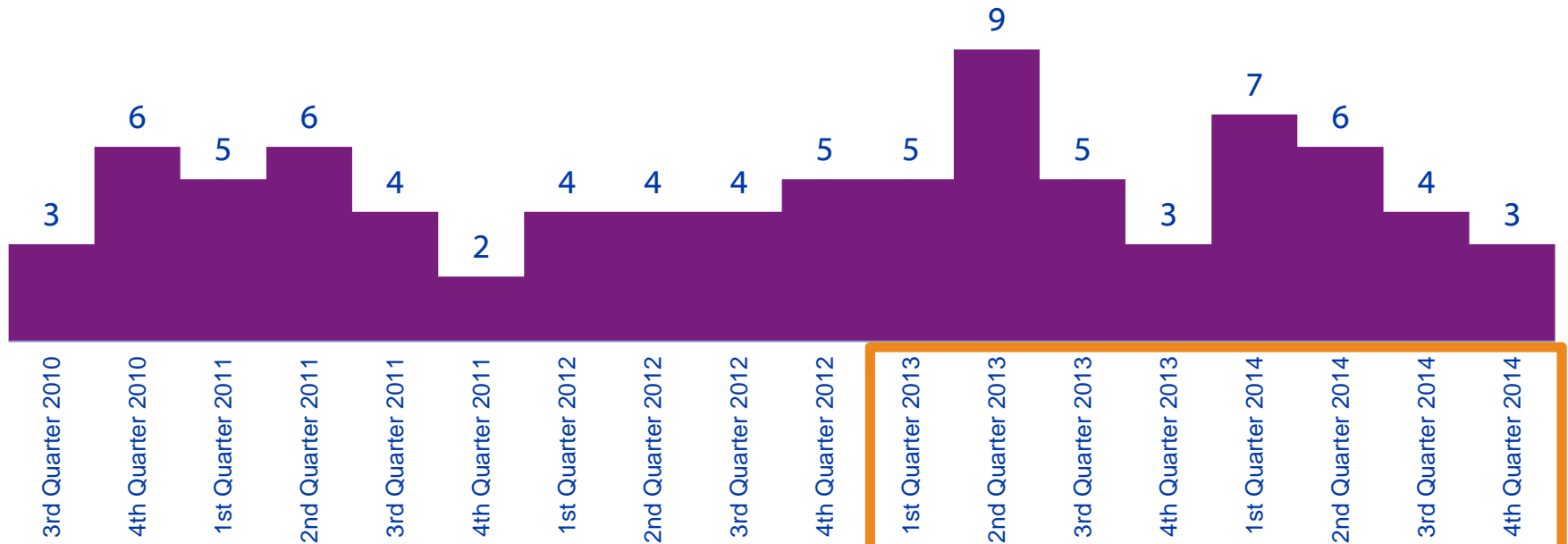
NOTE: Rates were calculated with fewer than 20 cases and may be unstable. Therefore they should be interpreted with caution.



# OCME Data: Epi-Curve

## Suicide Deaths by Quarter Among Youth, Ages 10–24, September 2010 –October 2014\* (N = 85)

■ # of decedents



\* Data only available through October 31, 2014

## OCME Data: Decedent Characteristics (N = 85)

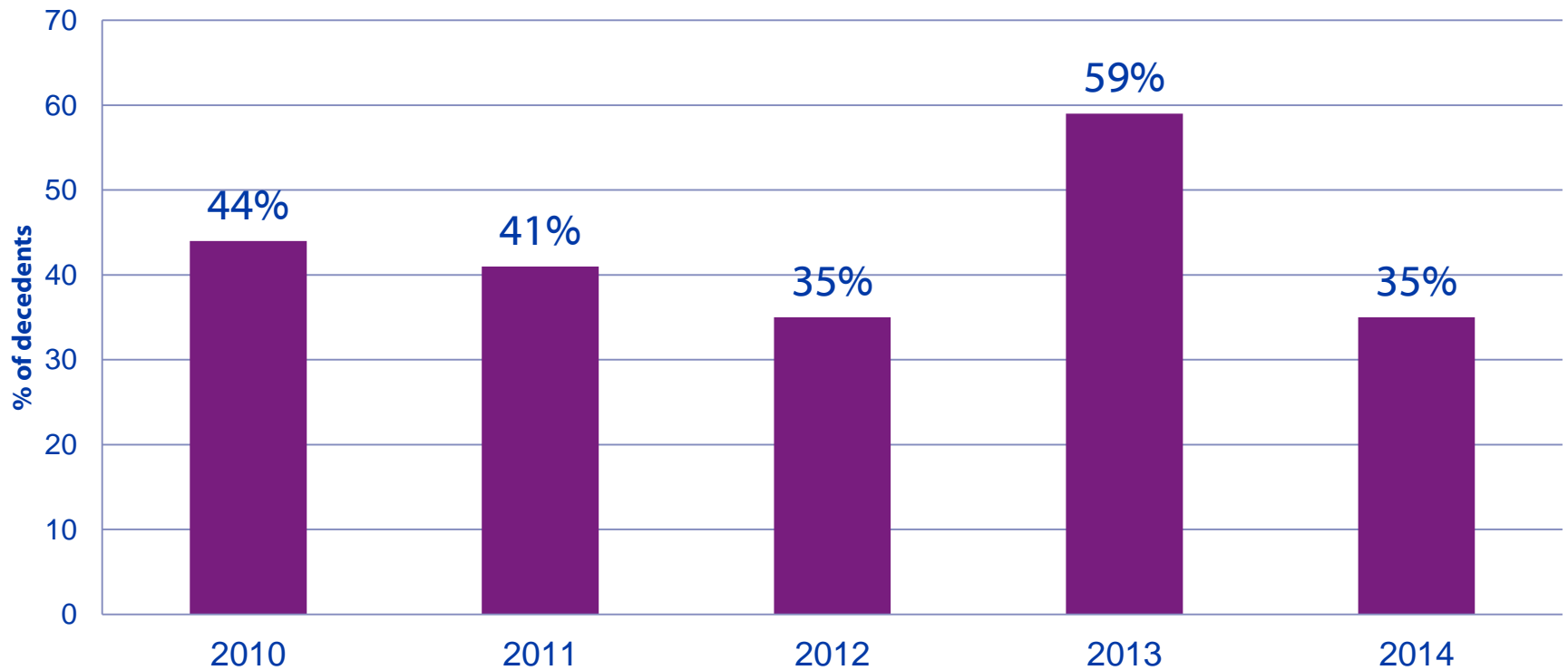
	#	%
Sex		
Female	22	26%
Male	63	74%
Age		
10-19	38	45%
20-24	47	55%
Race/Ethnicity		
White	59	69%
Asian	10	12%
Black	9	11%
Hispanic	7	8%

## OCME Data: Decedent Characteristics (N = 85)

	#	%
Method of suicide		
Hanging	32	38%
Gunshot wound	27	32%
Prescription drug overdose	8	9%
Blunt force trauma	7	8%
Asphyxia by plastic bag	3	4%
Other	8	9%
Toxicology results		
Positive for alcohol	18	21%
Positive for drugs	21	25%

# OCME Data: Alcohol or Drugs on Autopsy

Percent of Suicide Deaths Among Youth with Presence of Alcohol or Drugs on Autopsy by Year (N = 85)



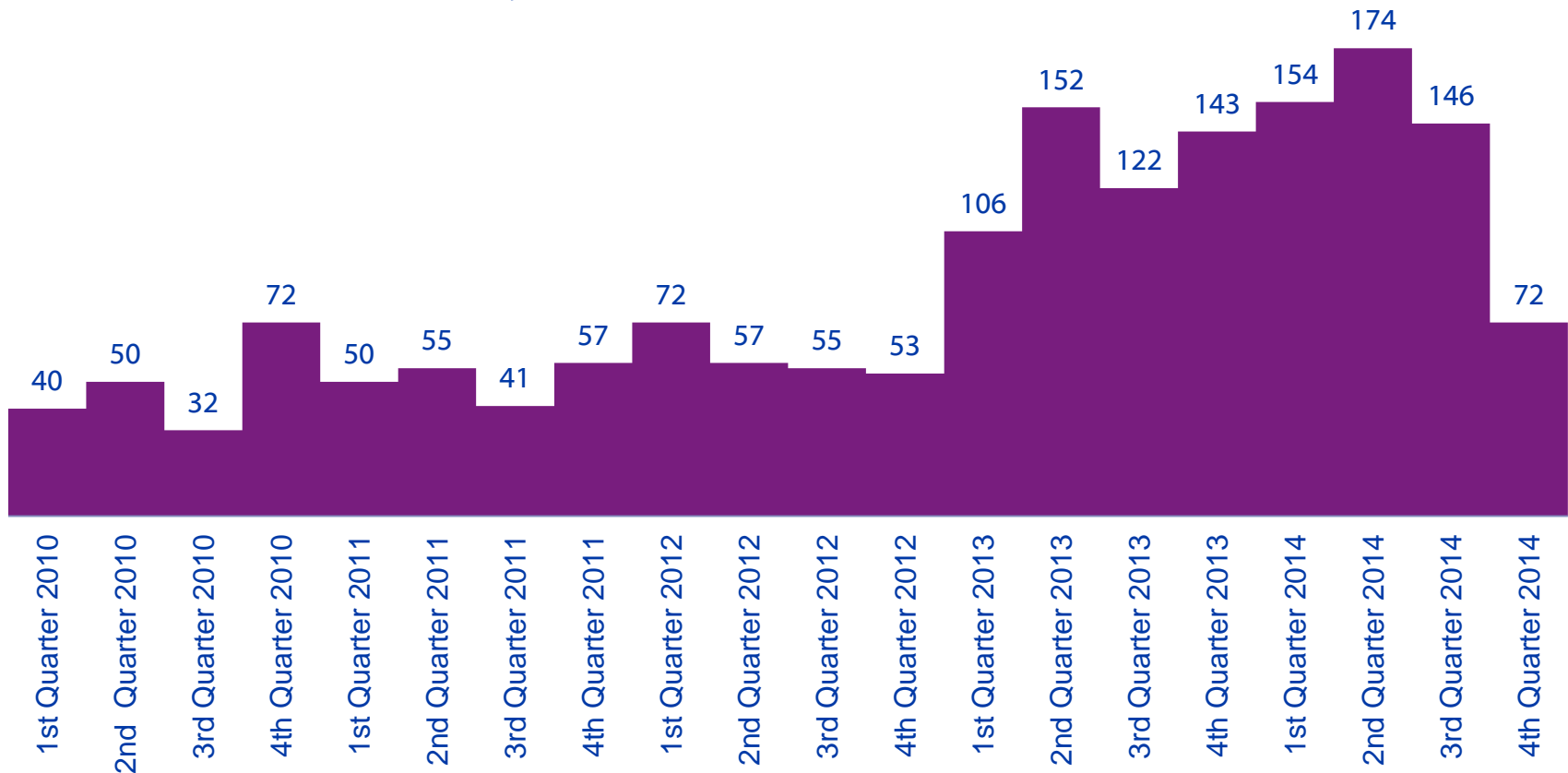
$\chi^2(4) = 3.14, p = 0.53$

## VDRS and OCME Data: Characteristics of Suicide Among Youth in Fairfax County, Virginia, 2010-2014

Characteristic	%
Current mental health problem	72
Mental health treatment in the last year	48
Disclosed intent to commit suicide	36
History of suicide-related behavior or ideation	36
Left a suicide note	36
School problem documented	25
Problem with other substances	20
Problem with alcohol	7

# ESSENCE Data Epi-Curve

Number of Emergency Department Visits With Chief Complaint  
of Suicidal Behaviors/Ideation Among Youth, Ages 10–24,  
January 2010 – October 2014\* (N = 1,703)



\* Data only available through October 31, 2014

# ESSENCE Data: Patient Characteristics (N = 1,703)

	#	%
Sex		
Female	1090	64%
Male	613	36%
Age		
10-19	1073	63%
20-24	630	37%
Race		
White	1056	62%
Asian	102	6%
Black	170	10%
Other	341	20%
Unknown	34	2%

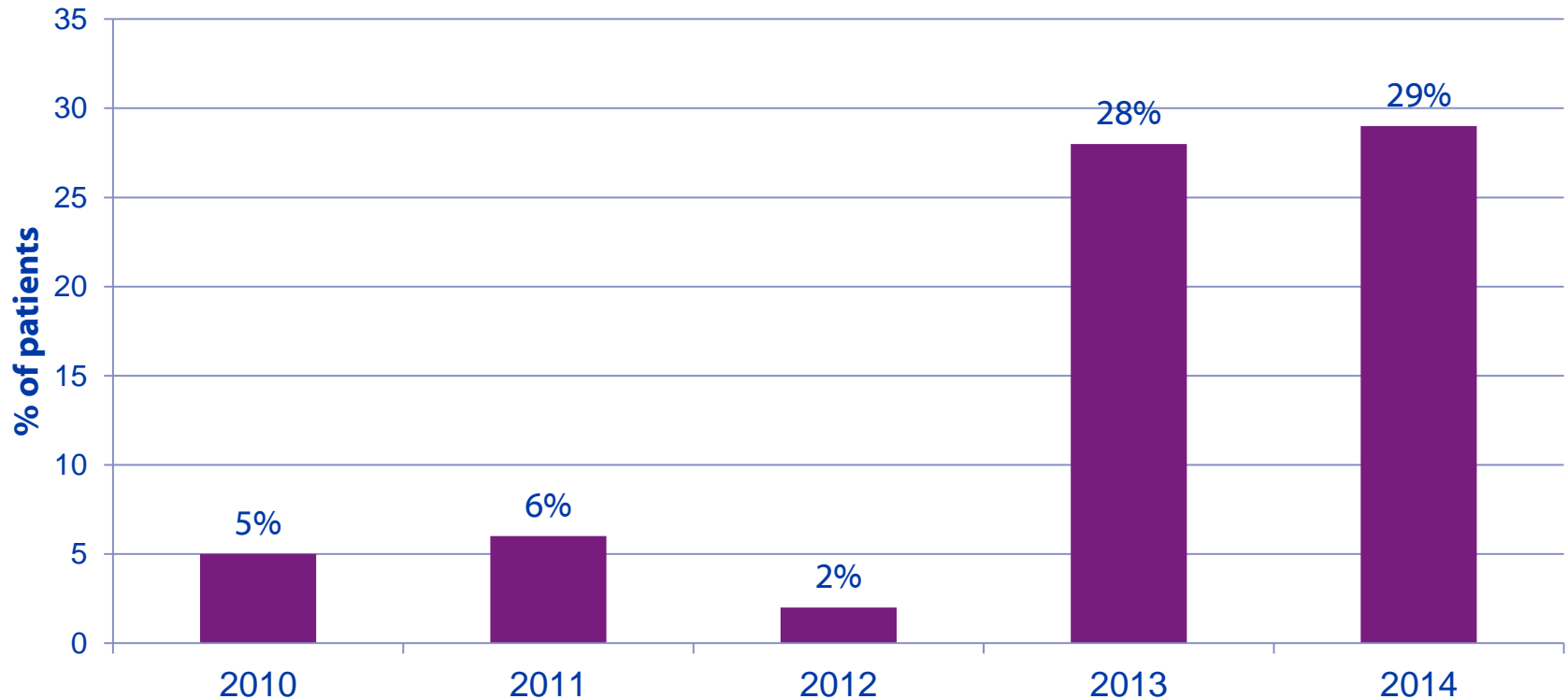
# ESSENCE Data: Patient Characteristics (N = 1,703)

	#	%
Chief Complaint		
“Suicidal/suicidal ideation”	1209	71%
Suicide attempt/non-fatal behavior	494	29%
Non-fatal behaviors		
Substance use	331	67%
Cutting	49	10%
Result of visit		
Discharged	1005	59%
Admitted	341	20%
Transferred	255	15%
Unspecified	102	6%



# ESSENCE Data: Substance Use

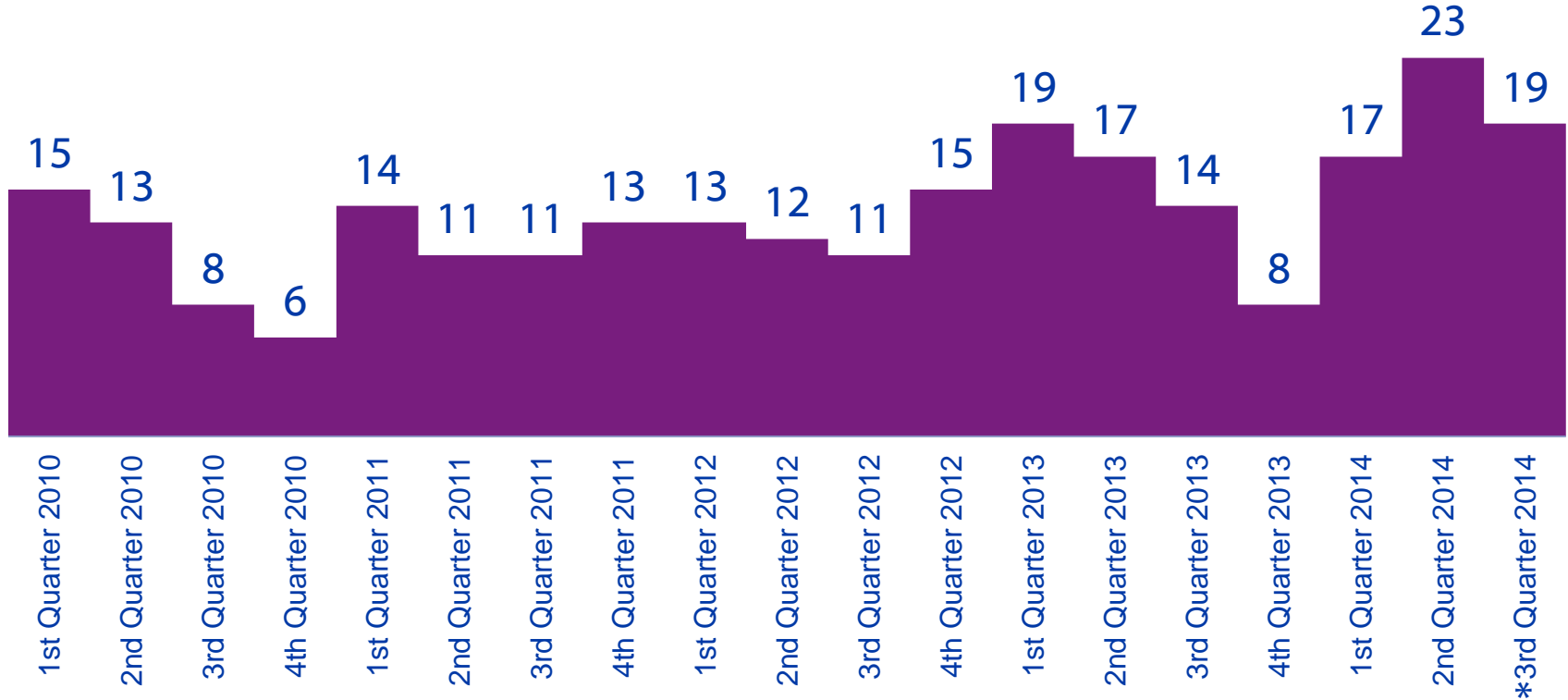
Percent of Patients with Substance Use in Emergency  
Department Visits With Chief Complaint of Suicidal  
Behaviors/Ideation Among Youth, Ages 10–24, January 2010 –  
October 2014 (N = 1,703)



$\chi^2 (4) = 150.77, p < .001$

# EMS Data Epi-Curve

**Number of Dispatched Suicide Responses from  
Fairfax County Fire & Rescue Among 10–24 year olds  
January 2010–September 2014 (N = 263)**



\* Data only available through September 30, 2014

## EMS Data: Patient Characteristics (N = 263)

	#	%
Sex		
Female	147	56%
Male	116	44%
Age		
10-19	153	58%
20-24	110	42%

# EMS Data: Patient Characteristics (N = 263)

	#	%
Primary impressions		
Behavioral/psychiatric disorder	118	45%
Traumatic injury	61	23%
Obvious death	13	5%
Substance use/abuse	13	5%
Cardiac arrest	8	3%
Other	50	19%
Outcome		
Treated and transported	208	79%
Patient refused	32	12%
Pronounced dead at scene	18	7%
Other	5	2%

# Identify Risk and Protective Factors Associated with Fatal and Non-fatal Suicidal Behaviors

- **Fairfax County Youth Survey**
- **Virginia Secondary School Climate Survey**
- **Qualitative data**
  - Focus groups with parents
  - Interviews with principals and directors of student services
  - Review of news stories

# Fairfax County Youth Survey Data: Risk and Protective Factors

Dependent Variables	Independent Variables
Seriously considered suicide	Demographics
Attempted suicide	Individual level factors <ul style="list-style-type: none"> <li>• Felt sad or hopeless</li> <li>• Binge drinking</li> <li>• Lifetime drug use</li> <li>• Sensation seeking</li> <li>• Resilience</li> <li>• Amount of sleep</li> </ul>
	Relationship level factors <ul style="list-style-type: none"> <li>• Parent help available</li> <li>• Adult in neighborhood to talk to</li> <li>• Teacher recognition</li> <li>• Feels safe at school</li> <li>• Ever suspended</li> <li>• Bullying</li> <li>• Intimate partner violence (IPV)</li> <li>• Family conflict</li> <li>• General violence</li> </ul>

# Fairfax County Youth Survey Data: Risk and Protective Factors

Seriously considered  
suicide

Attempted suicide

## Demographics

- Female

Risk

Risk

## Individual level factors

- Feeling sad or hopeless
- Lifetime drug use
- Sensation seeking behaviors
- Resiliency
- Six or more hours of sleep

Risk

Risk

Risk

Risk

Risk

Protective

Protective

Protective

Protective

# Fairfax County Youth Survey Data: Risk and Protective Factors

Seriously considered  
suicide

Attempted suicide

## Relationship level factors

- Victim of bullying
- Victim of cyber bullying
- Experience of intimate partner violence
- Experience of family conflict
- Experience of general violence
- Parent help available
- Feels safe at school

Risk

Risk

Risk

Risk

Risk

Risk

Risk

Risk

Protective

Protective

Protective

Protective



# Virginia Secondary School Climate Survey

	<b>FCPS Range</b>	<b>Region Average</b>	<b>State Average</b>
Disciplinary Structure	2.7-3	2.8	2.6
Student Support	2.8-3.3	3	3
Academic Expectations	3-3.3	3	3
Student Engagement	2.9-3.7	3	2.9
Prevalence of Teasing and Bullying	2.1-2.5	2.4	2.5

# Virginia Secondary School Climate Survey

	FCPS Range	Region	State
Mean number of student activities	5.97-8.27	6.54	6.7
I expect to graduate from a 4 year college (%)	27-47%	40%	39%
I expect to complete post-graduate studies after graduating from a 4 year college	33-67%	39%	39%

# Qualitative Data: Voices from the Community

- **Focus groups with parents**
  - 6 focus groups
  - N = 71
- **Interviews with school principals and directors of student services (DSS)**
  - 8 Principals
  - 8 High School DSS
  - 2 Middle School DSS
- **Questions addressed:**
  - Perceptions of youth suicide
  - Perceptions of risk factors
  - Perceptions of protective factors

# Qualitative Data: Risk Factors

Themes	School Staff Interviews	Parents/Caregivers Focus Groups
Interpersonal/family	<ul style="list-style-type: none"> <li>• High expectations</li> <li>• Parental pressure on students for success</li> <li>• Parental denial of children's mental health issues</li> <li>• Low parental support for behavioral health</li> </ul>	<ul style="list-style-type: none"> <li>• Parents did not see suicide events coming</li> <li>• Parental lack of awareness of social media</li> <li>• Tremendous academic pressure</li> <li>• Sports injury and concussion</li> </ul>
School	<ul style="list-style-type: none"> <li>• High ratios of students to counselors</li> <li>• No crisis plan</li> <li>• Time for instruction competes with intervention</li> <li>• Lack of relationships between students and mental health staff</li> </ul>	<ul style="list-style-type: none"> <li>• High teacher expectations</li> <li>• Zero tolerance policy</li> <li>• Lack of resources for teachers leads to increased risk of suicide among students</li> <li>• Academic counselors lack mental health qualifications</li> </ul>
Community	<ul style="list-style-type: none"> <li>• Outflow of information from schools to traditional media</li> <li>• Social media is cruel</li> <li>• Stigma</li> <li>• Access to mental health services</li> </ul>	<ul style="list-style-type: none"> <li>• Taboos and stigma</li> <li>• Lack of insurance coverage and lack of awareness of mental health resources</li> <li>• Traditional media coverage</li> <li>• Social media is uncensored</li> </ul>

# Qualitative Data: Protective Factors

Themes	School Staff Interviews	Parents/Caregivers Focus Groups
Interpersonal/family	<ul style="list-style-type: none"> <li>• Involved and supportive parents</li> <li>• Resiliency</li> <li>• Student role models</li> <li>• Strong clinical staff</li> </ul>	<ul style="list-style-type: none"> <li>• Fostering child self-worth and awareness</li> <li>• Developing parent, child and family relationships</li> </ul>
School	<ul style="list-style-type: none"> <li>• Student role models</li> <li>• Strong clinical staff</li> </ul>	<ul style="list-style-type: none"> <li>• Caring teachers</li> <li>• School policies related to grades and attendance are sensitive to suicide events</li> </ul>
Community	<ul style="list-style-type: none"> <li>• Community resources that serve youth and allow youth participation</li> <li>• Youth voices at community level</li> </ul>	<ul style="list-style-type: none"> <li>• Community resources that serve youth and allow youth participation</li> </ul>

# Mass Media Scan: Coverage of Youth Suicide in Local Media

- **Youth death by suicide has received mass media attention**
  - Research has shown that certain types of news coverage can increase the likelihood of suicide
- **A scan of media related to youth suicide identified 13 news stories.**
- **News stories were reviewed and evaluated based on strategies to avoid in the “Recommendations for Reporting on Suicide”**

## Mass Media Scan: Strategies to Avoid when Reporting on Suicide

Strategies to Avoid:	Used by at least one article
Big or sensationalistic headlines	X
Describing the suicide method	X
Including photos/videos of the location or method of death, grieving family, friends, memorials, or funerals	X
Describing recent suicides as an “epidemic,” “skyrocketing,” or other strong terms	X
Describing a suicide as inexplicable or “without warning”	X
“John Doe left a suicide note saying...”	X
Investigating or reporting on suicide similar to reporting on crimes	X
Referring to suicide as “successful,” “unsuccessful,” or a “failed attempt”	X

# Summary

- **Mixed methods approach**
- **85 youth deaths by suicide identified**
- **Over 1700 ED visits**
- **Multiple risk and protective factors identified**
  - Summarized in final report
  - Included:
    - Mental health and substance use
    - Experiences of violence
    - Pressures related to academic achievement
    - Media



# Limitations

- **We did not speak directly with youth**
  - Youth voices were represented using the Fairfax County Youth Survey
- **Only examined ED visits and EMS responses for non-fatal behaviors**
  - Missing age data in EMS responses
- **Omitted variable bias in youth survey**
  - Example: academic pressure
- **Unable to interview school staff at every school**
- **Selection bias in parent focus groups**

# Strengths

- **Mixed methods approach**
- **Social ecological perspective**
- **Examination of fatal and non-fatal behaviors**
- **Voices**
  - Youth
  - Parents
  - School
- **Collaboration across multiple local, state, and federal agencies and organizations**

# **Recommendations: Programmatic**

- **Educate and assist parents on navigating mental health care resources**
- **Work to improve care coordination among schools, primary care providers, and mental health providers**
- **Create and disseminate a protocol for responding to traumatic loss with an emphasis on suicide**

# **Recommendations: Programmatic**

- **Continue to develop partnerships with community organizations and agencies in different sectors**
- **Continue to review and implement evidence-based primary prevention strategies**
- **Consider a health communication campaign to educate the community about risk factors associated with youth suicide and the availability of mental health care resources**
- **Develop and implement an evaluation plan for all ongoing and future suicide prevention activities**

# Recommendations: Surveillance

- **Continue to monitor trends in suicide-related behaviors among youth through local data sources**
- **Continue to assess the community's perceptions of youth suicide**
- **Add items to the Fairfax County Youth Survey to assess perceptions of academic pressure, extracurricular activities, and course load**
- **Consider social media monitoring (i.e., Chatter Grabber) as an active surveillance tool to identify discussion about suicide or suicide-related behaviors in real time**

# Conclusion

- **Youth who died by or attempted suicide had multiple risk factors**
  - Mental illness
  - Substance use
  - Victimization of violence
- **Community concern**
  - Mental health care resources
  - Pressures related to academic achievement
  - Media
- **Multi-level public health problem that requires a multi-level response**
  - State, county, community, school, family, individual

# **NEXT STEPS**

Fairfax County Health Department and Fairfax County Public Schools

## **Next Steps**

- **Integrate recommendations into the Northern Virginia Suicide Prevention Plan**
- **Develop, implement and evaluate evidence-based and evidence-informed interventions to strengthen the system of care for people at risk of suicide**
- **Ensure a coordinated and strategic approach to ongoing suicide prevention efforts and the implementation of the recommendations**



## Steps You Can Take Now...

- **Share the CrisisLink hotline and textline numbers**
  - Text to 703-940-0888
  - Call 703-527-4077
- **Take online suicide prevention training to learn to identify signs of distress and engage youth who may be at risk**
  - <http://www.fairfaxcounty.gov/csb/at-risk/>