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# Associations of suicidal ideation with opioid/ prescription drug use, violence, food insecurity, and community factors among New Hampshire high school students

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# Associations of suicidal ideation with opioid/prescription drug use, violence, food insecurity, and community factors among New Hampshire high school students

## **Abstract**

**Purpose:** Suicide is the second leading cause of death for New Hampshire (NH) youth. Evidence-based public health emphasizes the use of data for translating research into practice/policy. We utilized data from the Youth Risk Behavior Survey (YRBS) to support community-academic partnerships and inform suicide prevention interventions. **Methods:** Data from the 2011 NH YRBS, a cross-sectional survey of 9th-12th grade students, were analyzed. Gender-stratified, adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were estimated using logistic regression models (SAS 9.4, ProcSueylogistic) to evaluate associations between suicidal ideation (seriously considering attempting suicide within the past 12 months), violence (e.g., physical bullying, cyber-bullying, forced sexual activity), opioid/prescription drug use, food insecurity, and perceptions of being valued by one's community.

**Results:** Overall, the prevalence of suicidal ideation was 14.3% (females 16.8%; males 12.2%). For both genders, higher prevalence of suicidal ideation was observed among students in grades 9 (15.6%) and 10 (17.8%) compared to grades 11 (11.6%) and 12 (11.3%). In adjusted models, among girls, suicidal ideation was positively associated with the use of opioid/prescription drugs (aOR: 1.38; CI: 1.13-1.67)), violence (being forced to have sex (aOR 2.32 (CI 1.12-4.81))); being bullied on school property (aOR 2.28 (CI 1.31-3.97)), and food insecurity ((aOR 1.36 (CI 1.02-1.81))). Among boys, suicidal ideation was positively associated with opioid/drug use (aOR 1.25 (CI 1.04-1.49)), cyberbullying (aOR 2.69(CI 1.17-6.18)), and food insecurity ((aOR 1.44 (CI 1.14-1.83)). Youth who perceived that they did not matter to their community were more likely to report suicidal ideation (Girls: aOR: 1.62; CI: 1.27-2.08; Boys: aOR: 1.37; (CI: 1.10-1.71)), compared to those who felt that they mattered to their community.

**Conclusions:** Drug use, violence, and food insecurity emerged as significant risk factors for suicidal ideation among NH youth. Interventions that make youth feel that they matter to their communities may protect against suicidal ideation.

## **Subject Categories**

Community Health | Health and Medical Administration | Medicine and Health Sciences | Mental and Social Health | Psychiatric and Mental Health | Substance Abuse and Addiction

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Title	<i>Associations of suicidal ideation with opioid/prescription drug use, violence, food insecurity, and community factors among New Hampshire high school students</i>
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### Abstract

**Purpose:** *Suicide is the second leading cause of death for New Hampshire (NH) youth. Evidence-based public health emphasizes the use of data for translating research into practice/policy. We utilized data from the Youth Risk Behavior Survey (YRBS) to support community-academic partnerships and inform suicide prevention interventions. Methods:* *Data from the 2011 NH YRBS, a cross-sectional survey of 9th-12th grade students, were analyzed. Gender-stratified, adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were estimated using logistic regression models (SAS 9.4, ProcSurveylogistic) to evaluate associations between suicidal ideation (seriously considering attempting suicide within the past 12 months), violence (e.g., physical bullying, cyber-bullying, forced sexual activity), opioid/prescription drug use, food insecurity, and perceptions of being valued by one's community. Results:* *Overall, the prevalence of suicidal ideation was 14.3% (females 16.8%; males 12.2%). For both genders, higher prevalence of suicidal ideation was observed among students in grades 9 (15.6%) and 10 (17.8%) compared to grades 11 (11.6%) and 12 (11.3%). In adjusted models, among girls, suicidal ideation was positively associated with the use of opioid/prescription drugs (aOR: 1.38; CI: 1.13-1.67), violence (being forced to have sex (aOR 2.32 (CI 1.12-4.81)); being bullied on school property (aOR 2.28 (CI 1.31-3.97)), and food insecurity ((aOR 1.36 (CI 1.02-1.81)). Among boys, suicidal ideation was positively associated with opioid/drug use (aOR 1.25 (CI 1.04-1.49)), cyberbullying (aOR 2.69(CI 1.17-6.18)), and food insecurity ((aOR 1.44 (CI 1.14-1.83). Youth who perceived that they did not matter to their community were more likely to report suicidal ideation (Girls: aOR: 1.62; CI: 1.27-2.08; Boys: aOR: 1.37; (CI: 1.10-1.71)), compared to those who felt that they mattered to their community. Conclusions:* *Drug use, violence, and food insecurity emerged as significant risk factors for suicidal ideation among NH youth. Interventions that make youth feel that they matter to their communities may protect against suicidal ideation.*

Keywords	<i>Youth suicide, opioids, food insecurity, violence, community partnerships</i>
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## Submission Files Included in this PDF

File Name [File Type]

*Emily ACE Abstract FINAL text3\_.docx [Manuscript File]*

*Table 1 & 2 PDF.pdf [Table]*

*Table 3\_f.docx [Table]*

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# Associations of suicidal ideation with opioid/prescription drug use, violence, food insecurity, and community factors among New Hampshire high school students

Emily Carbonara and Semra Aytur

## Purpose:

Suicide is the second leading cause of death among youth in New Hampshire (NH). Evidence-based public health emphasizes the use of data for translating research into practice/policy. We utilized data from the Youth Risk Behavior Survey (YRBS) to support community-academic partnerships and inform suicide prevention interventions.

## Methods:

Data from the 2011 NH YRBS, a cross-sectional survey of 9th-12th grade students, were analyzed. Gender-stratified, adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were estimated using logistic regression models (SAS 9.4, ProcSuveylogistic) to evaluate associations between suicidal ideation (seriously considering attempting suicide within the past 12 months), violence (e.g., physical bullying, cyber-bullying, forced sexual activity), opioid/prescription drug use, food insecurity, and perceptions of being valued by one's community.

## Results:

Overall, the prevalence of suicidal ideation was 14.3% (females 16.8%; males 12.2%). For both genders, higher prevalence of suicidal ideation was observed among students in grades 9 (15.6%) and 10 (17.8%) compared to grades 11 (11.6%) and 12 (11.3%).

In adjusted models, among girls, suicidal ideation was positively associated with the use of opioid/prescription drugs (aOR: 1.38; CI: 1.13-1.67), violence (being forced to have sex (aOR 2.32 (CI 1.12-4.81)); being bullied on school property (aOR 2.28 (CI 1.31-3.97)), and food insecurity ((aOR 1.36 (CI 1.02-1.81)). Among boys, suicidal ideation was positively associated with opioid/drug use (aOR 1.25 (CI 1.04-1.49)), cyberbullying (aOR 2.69(CI 1.17-6.18)), and food insecurity ((aOR 1.44 (CI 1.14-1.83).

Youth who perceived that they did not matter to their community were more likely to report suicidal ideation (Girls: aOR: 1.62; CI: 1.27-2.08; Boys: aOR: 1.37; (CI: 1.10-1.71)), compared to those who felt that they mattered to their community.

Conclusions: Drug use, violence, and food insecurity emerged as significant risk factors for suicidal ideation among NH youth. Interventions that make youth feel that they matter to their communities may protect against suicidal ideation.

**Table 1**  
Sample Characteristics

	Unweighted Frequency	Weighted Frequency	Weighted Percentage
<b>Total</b>	1403	61745	100
<b>Sex</b>			
Female	679	29914	48.5
Male	724	31831	51.6
<b>Race</b>			
White	1206	56612	93.91
Non-White	207	3673	6.09
<b>Grade</b>			
9th	400	16434	26.6
10th	344	15479	25.1
11th	284	15047	24.4
12th	368	14552	23.6

**Table 2**

Prevalence of suicidal ideation by sociodemographic factors among New Hampshire high school students- Youth Risk Behavior Survey, 2011

	Weighted Frequency	Weighted Percentage
<b>Total</b>	8893	14.4
<b>Sex</b>		
Female	5017	8.12
Male	3876	6.28
<b>Race</b>		
White	8047	13.35
Non-White		
<b>Grade</b>		
9th	2557	4.15
10th	2760	4.47
11th	1742	2.82
12th	1648	2.67

**Table 3. Adjusted Odds Ratios (AOR) for suicidal ideation among New Hampshire high school students, by opioid/prescription drug use, violence, food insecurity, and community factors—Youth Risk Behavior Survey (YRBS 2011)**

	<b>Girls (n=679)</b>	<b>p-value</b>	<b>Boys (n=724)</b>	<b>p-value</b>
	<b>AOR (95% CI)</b>		<b>AOR (95% CI)</b>	
Physically hurt on purpose by a partner <sup>a</sup>	1.609 (0.763-4.164)	0.2328	1.281 (0.536-3.059)	0.5570
Physically forced to have sex when did not want to	2.318 (1.117-4.811)	0.0421	1.816 (0.620-5.323)	0.2762
Bullied on school property <sup>a</sup>	2.279 (1.309-3.967)	0.0036	1.708 (0.800-3.649)	0.1164
Bullied electronically <sup>a</sup>	1.298 (0.732-2.299)	0.3715	2.694 (1.173-6.184)	0.0195
Use of prescription drugs (such as OxyContin, Percocet, Vicodin, codeine, Adderall, Ritalin, or Xanax) without a doctor's prescription <sup>b</sup>	1.376 (1.134-1.671)	0.0013	1.250 (1.045-1.494)	0.0144
Went hungry because there was not enough food at home <sup>c</sup>	1.361 (1.021-1.813)	0.0357	1.443 (1.138-1.831)	0.0025
Feel like you matter to people in your community <sup>d</sup>	1.625 (1.271-2.076)	0.0001	1.375 (1.102-1.715)	0.0048

AOR, Adjusted Odds Ratio

CI, Confidence Intervals

Models control for grade (9th,10th, 11th, 12th) and race (white, non-white); these were not significant at the 0.05 level

<sup>a</sup> During the 12 months before the survey

<sup>b</sup> One or more times during their life, have taken a prescription drug without a doctors' prescription)

<sup>c</sup> During the past 30 days, never, rarely, sometimes, most of the time, or always went hungry because there was not enough food at home

<sup>d</sup> Strongly agree, agree, not sure, disagree, or strongly disagree that they matter to people in the community

Models were run in SAS v9.4; PROC SURVEYLOGISTIC