

# Opioid Use Disorder and Suicide Risk

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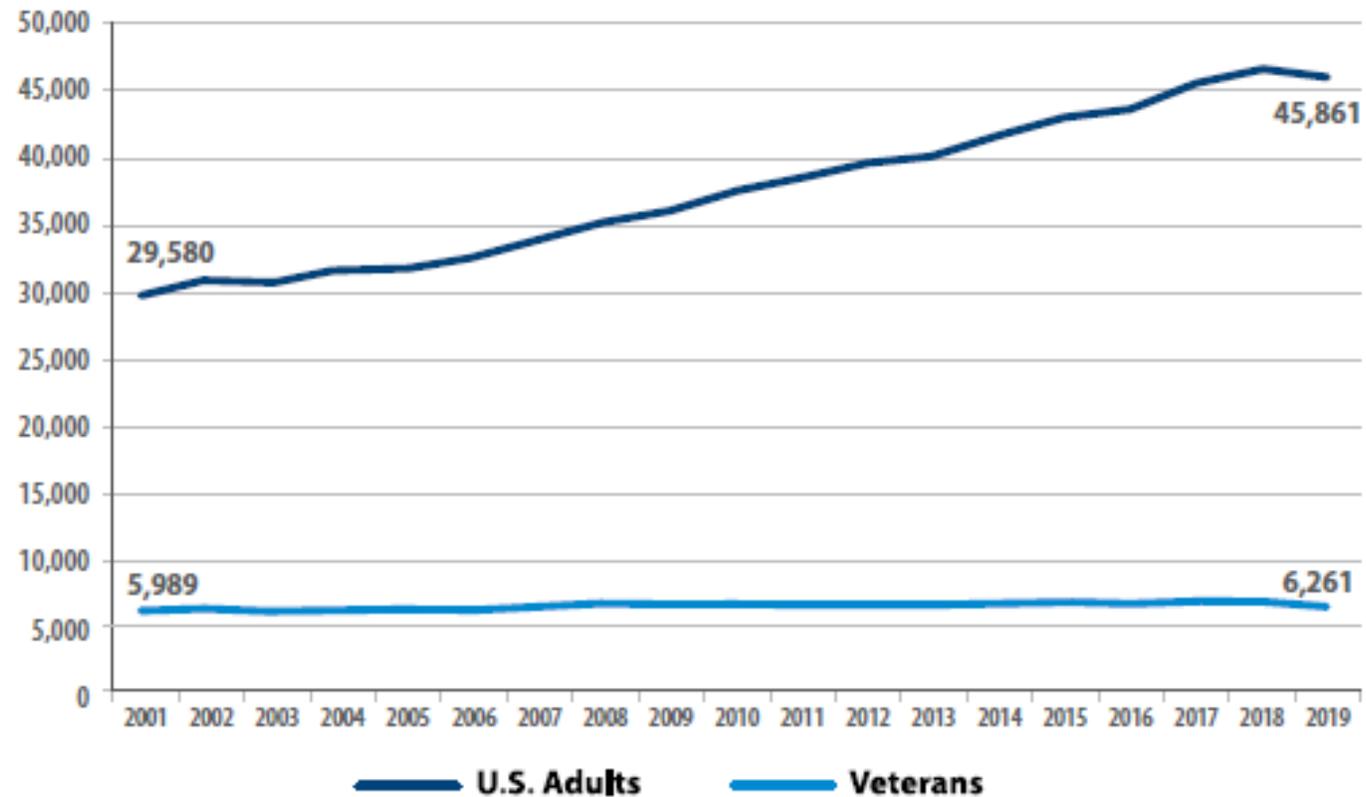
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# Overview

- ▶ Death by Suicide- Statistics/Background
- ▶ Opioids and Suicidal Behavior
- ▶ Risk prevention tools (STORM)
- ▶ Resources

# National Suicide Deaths, by Year, 2001–2019



# Death by Suicide in South Carolina

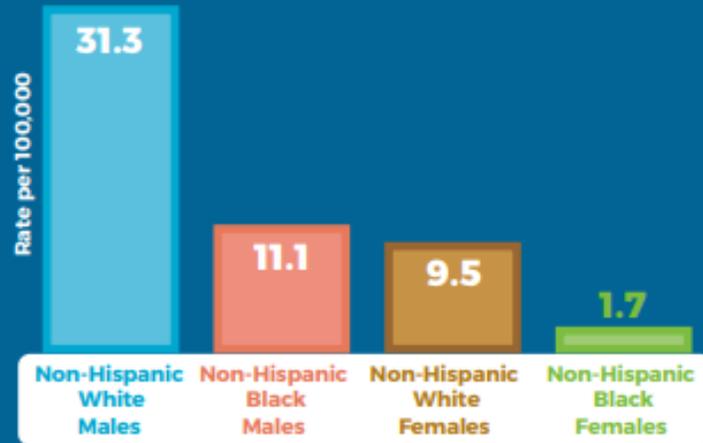
- ▶ South Carolina ranked:  
24<sup>th</sup> in the nation in suicide rates; 18<sup>th</sup> in teen suicides aged 12-19; 29<sup>th</sup> in drug-related suicides
- ▶ Suicide was the 10<sup>th</sup> leading cause of death in SC and in the US
- ▶ South Carolina's suicide rate was 8% higher than the national rate  
Suicide rate in SC increased by 18% from 2009-2018  
Raw number suicide deaths increased 33% from 2009-2018

**South Carolina Veteran and Total South Carolina, Southern Region, and National Suicide Deaths by Age Group, 2019<sup>c</sup>**

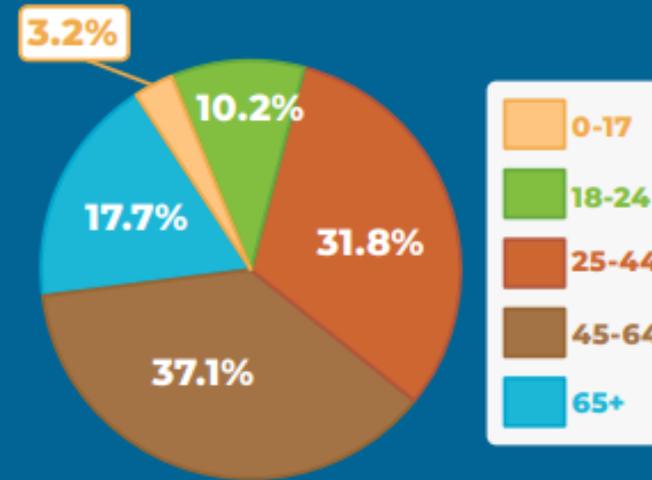
Age Group	South Carolina Veteran Suicides	South Carolina Total Suicides	Southern Region Total Suicides	National Total Suicides	South Carolina Veteran Suicide Rate	South Carolina Suicide Rate	Southern Region Suicide Rate	National Suicide Rate
Total	123	813	18,061	45,861	30.3	20.1	18.6	18.0
18-34	15	230	5,016	12,913	38.5*	20.0	17.4	17.0
35-54	30	281	6,169	15,537	28.6	22.3	19.4	18.8
55-74	47	222	5,159	13,105	26.3	17.6	18.4	17.7
75+	31	80	1,717	4,306	37.3	21.8	20.2	19.1

# SOUTH CAROLINA BY THE NUMBERS

## Suicide by Sex and Race 2014-2018



## Suicide by Age 2014-2018

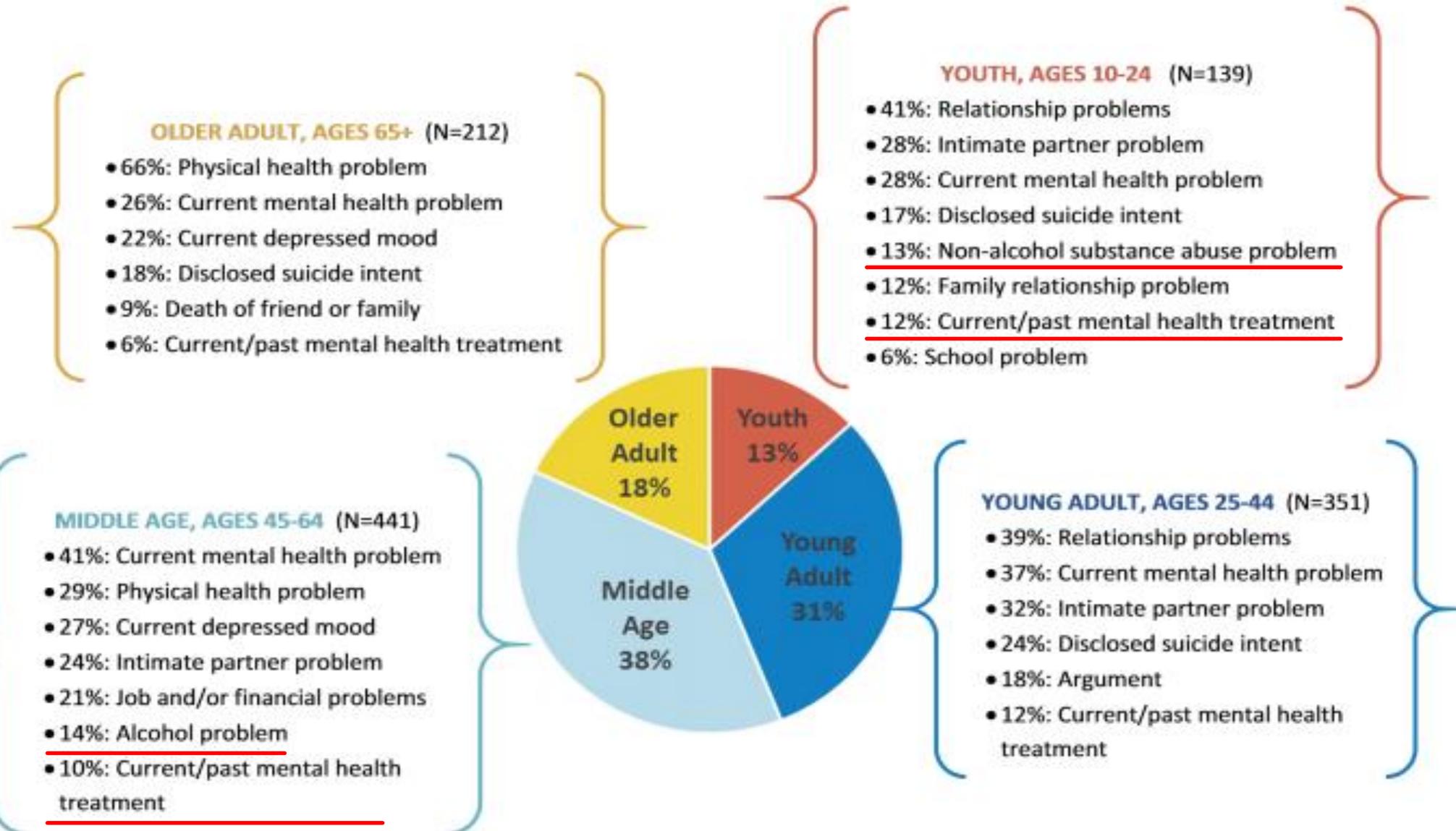


## Counties with Highest Suicide Death Rates (2014-2018)

(Highest combined 5-year Suicide rate per 100,000 population)



## SUICIDE CIRCUMSTANCES BY LIFE STAGE, SOUTH CAROLINA, 2013-2014



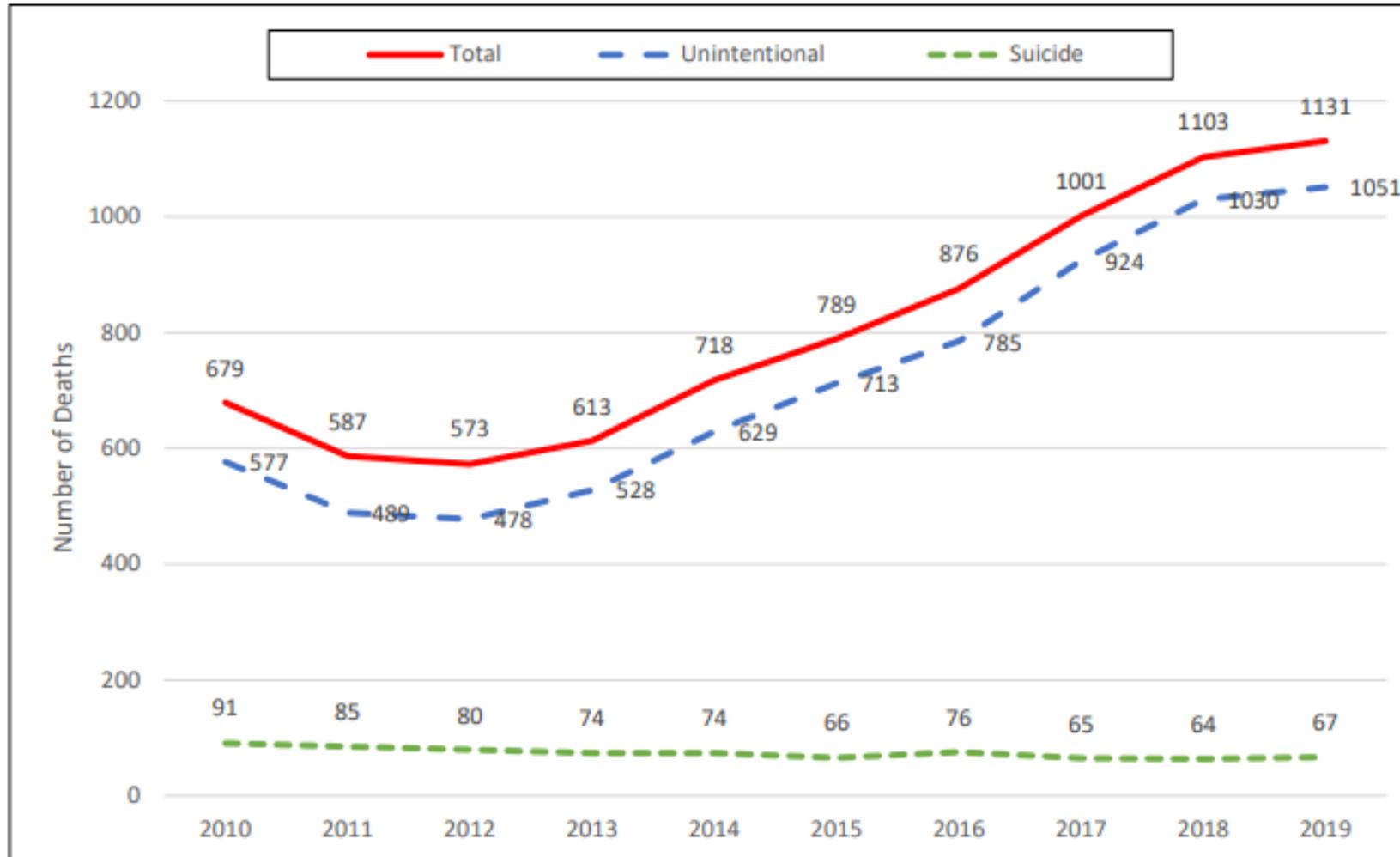
# Suicide Deaths, Methods Involved, 2019 and Change from 2001

	Non-Veteran		Veterans		Non-Veteran		Veteran		Non-Veteran		Veteran	
	U.S. Adults				Women		Women		Men		Men	
	2019	Change*	2019	Change*	2019	Change*	2019	Change*	2019	Change*	2019	Change*
Firearms	47.9%	(-4.8%)	69.2%	(+2.7%)	31.3%	(-4.2%)	49.8%	(+12.8%)	53.0%	(-5.0%)	70.2%	(+2.9%)
Poisoning	13.9%	(-4.5%)	8.4%	(-4.8%)	31.0%	(-7.1%)	26.3%	(-16.6%)	8.5%	(-3.8%)	7.5%	(-4.9%)
Suffocation	29.6%	(+8.8%)	16.9%	(+2.9%)	27.7%	(+12.0%)	20.5%	(+10.1%)	30.2%	(+7.9%)	16.8%	(+2.7%)
Other	8.7%	(+0.6%)	5.4%	(-0.9%)	10.0%	(-0.7%)	3.4%	(-6.3%)	8.3%	(+1.0%)	5.5%	(-0.8%)

\* Change Versus Among Suicide Decedents in 2001

Veteran suicides were more likely to involve firearms. This difference increased from 2001 to 2019.

Figure 1.  
Number of Drug Overdose Deaths by Intent  
South Carolina, 2010-2019  
Occurrence Data

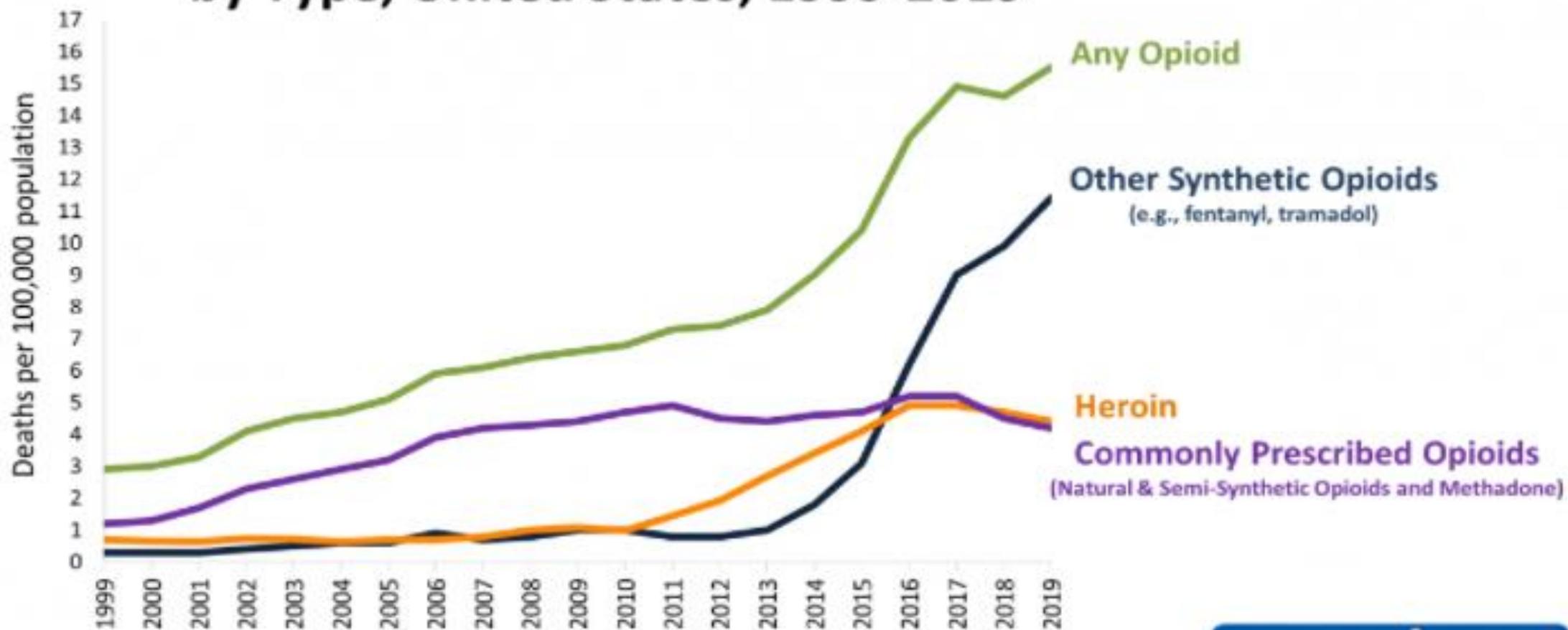


**Table 1. Rates of Death from Suicide and Overdose in the United States, According to Year.\***

Cause of Death	Age-Adjusted Rate per 100,000 Americans																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Suicide	10.4	10.7	10.9	10.8	11.0	10.9	11.0	11.3	11.6	11.8	12.1	12.3	12.6	12.6	13.0	13.3	13.5	14.0
Intentional overdose	1.2	1.3	1.4	1.3	1.4	1.4	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.5
Intentional overdose involving opioids	0.3	0.3	0.4	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Unintentional overdose	4.3	4.7	5.8	6.5	6.9	7.7	9.0	9.6	9.9	10.0	10.4	11.3	11.2	11.9	12.8	14.5	17.8	19.7
Involving opioids	2.2	2.4	3.1	3.4	3.6	4.0	4.8	5.0	5.3	5.5	5.7	6.3	6.4	6.9	7.9	9.3	11.9	13.5
Suicide and unintentional overdose combined	14.7	15.4	16.8	17.2	17.9	18.6	19.9	20.9	21.5	21.7	22.5	23.6	23.8	24.6	25.8	27.8	31.3	33.7
Involving opioids	2.5	2.7	3.5	3.7	4.0	4.5	5.2	5.5	5.9	6.0	6.3	6.8	6.9	7.4	8.5	9.8	12.5	14.1

\* Categories were determined on the basis of the codes of the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision*, that were obtained from death records. Suicide deaths were those with an underlying cause of death coded as X60 through X84, Y87.0, or \*U03. Unintentional overdose deaths were those with an underlying cause of death coded as X40 through X45. Deaths involving opioids were those with multiple cause of death codes recorded as T40.0 through T40.4 or T40.6. Data were obtained from the Centers for Disease Control and Prevention.<sup>2</sup>

## Overdose Death Rates Involving Opioids, by Type, United States, 1999-2019



SOURCE: CDC/NCHS, National Vital Statistics System, Mortality, CDC WONDER, Atlanta, GA; US Department of Health and Human Services, CDC; 2020. <https://wonder.cdc.gov/>.

# Opioids and Suicidal Behavior

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- ▶ Opioids are linked to **\*BOTH\*** unintentional overdose and suicide risk
- ▶ Opioid use disorder (OUD) is linked to increased suicide risk
- ▶ Opioid use disorder has a stronger relationship with suicide than other SUD
- ▶ OUD more than doubled the risk of suicide among women and increased the risk among men by 30%
- ▶ Among patients prescribed stable, long-term, higher-dose opioid therapy, tapering events were significantly associated with increased risk of overdose and mental health crisis

# Suicide by Opioid?

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Difficult to consider intent

- ▶ Suicide notes are found in less than 1/3 of overdose deaths
- ▶ Intentionality of overdose should be considered dimensional, not categorical
  - ▶ Accidental-----Passive intent-----Active intent

Oquendo and Volkow, 2018

- ▶ Estimates that up to 30% of opioid overdoses may have suicidal intent

Athey et al, 2020

- ▶ Differential factors to distinguish suicide/accident/natural death among illicit and prescription opiate users?
- ▶ Those who died by suicide were more likely to have experienced severe depression and previous suicide attempt
- ▶ Accidental overdose group was more likely to have chronic pattern of severe drug abuse

# Intersection of MH, Pain, and Suicide Risk

Pain and risk of suicide or overdose

- ▶ Having a diagnosis of chronic pain puts you at higher risk for suicide, even controlling for mental health conditions

Mental health conditions lead to additive risk of suicide attempts among Veterans seeking pain care

- ▶ Comorbid OUD and depression (RERI=1.07)
- ▶ Comorbid OUD and Alcohol use disorder (RERI=1.23)

Vets with higher levels of pain and insomnia have a history of suicide attempt and greater risk of future suicide attempt

# Stratification Tool for Opioid Risk Mitigation (STORM)

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**VA STORM predicts risk of overdose or suicide-related health care events or death.**

- ▶ A multivariate mixed effects logistic regression model was formulated by VA researchers to predict the occurrence of an overdose- or suicide-related event (overdose/suicide) using VA data
- ▶ FY 2010 VA administrative data were used to predict overdose/suicide in FY2011
- ▶ Predictor variables identified in the following domains:
  - (A) Demographics
  - (B) Previous Overdose/Suicide and Treatment Risk Indicators
  - (C) Prescriptions
  - (D) Substance Use and Mental Health Disorder diagnoses
  - (E) Medical Co-morbidities

# Stratification Tool for Opioid Risk Mitigation (STORM)

**VA STORM Patient Detail Report**  
Stratification Tool for Opioid Risk Mitigation

Data displayed has a 1-2 day lag from CPRS entry. This report is to be used along with the electronic medical record and direct discussion with the patient to help facilitate decision making. STORM predicts risk of overdose or suicide-related health care events or death. STORM should not be used for research, only for operational and quality improvement purposes. Warning: Discontinuing opioids does not necessarily reduce your patients' risk and may actually increase their risk. Always discontinue opioids with caution and clinical support.

Home About Definitions User Guide **Contact Us** Quick View Report SSN Look-Up Save/Share Current View

Total Patients: 5

**Link to helpdesk**

**Link to user guides for all STORM reports**

Patient Information	What factors contribute to my patient's risk?		How to better manage my patient's risk		How can I follow-up with this patient?		
	Relevant Diagnoses	Relevant Medications	Risk Mitigation Strategies	Non-pharmacological Pain Tx	Care Providers	Recent Appts	Upcoming Appts
<b>ZZTESTPATIENT,BATMAN MACK</b> Last Four: 2179 Age: 29 Gender: M <hr/> <b>Risk: Suicide or Overdose (1 yr)*</b> Very High - Active Opioid Rx 6% <hr/> PRF - High Risk for Suicide: No RIOSORD: Score: 43 Risk Class: 5 <hr/> Active Station(s) ● (600) Long Beach, CA <a href="#">Chart Review Note</a>	<b>Mental Health</b> Major Depressive Disorder Other MH Disorder <hr/> <b>Medical</b> Chronic Pulmonary Dis Diabetes, Uncomplicated Hypertension Lymphoma Neurological disorders - Other Paralysis Peripheral Vascular Disease Sleep Apnea <hr/> <b>Adverse Event</b> Related to falls	<b>Non-VA</b> MARIJUANA ● Dr Zivago <hr/> <b>Opioid</b> MORPHINE Months in Treatment: 1 ● Dr Zivago <hr/> ACETAMINOPHEN/HYDROCODONE Months in Treatment: 6 ● Dr Zivago <hr/> <b>Pain Medications (Sedating)</b> DULOXETINE ● Dr Zivago PREGABALIN ● Dr Zivago TOPIRAMATE ● Dr Zivago <a href="#">Opioid Prescription History</a>	<b>Bowel Regimen</b> <input checked="" type="checkbox"/> <b>Data-based Opioid Risk Review</b> <input type="checkbox"/> <b>MEDD &lt;= 90**</b> <input checked="" type="checkbox"/> 45 <b>Naloxone Kit</b> <input type="checkbox"/> 3/30/2018 <b>PDMP</b> <input checked="" type="checkbox"/> 1/13/2020 <hr/> <b>State PDMP List</b> <b>Psychosocial Assessment</b> <input checked="" type="checkbox"/> 11/7/2019 <b>Psychosocial Tx</b> <input checked="" type="checkbox"/> 1/23/2020 <b>Suicide Safety Plan</b> <input checked="" type="checkbox"/> 10/31/2019 <b>Timely Follow-up (90 Days)</b> <input checked="" type="checkbox"/> 1/27/2020 <b>Timely UDS (1 Year)</b> <input checked="" type="checkbox"/> 1/18/2020	<b>Active Therapies</b> <input checked="" type="checkbox"/> 1/23/18 <b>CIH Therapies</b> <input checked="" type="checkbox"/> 1/23/15 <b>Chiropractic Care</b> <input type="checkbox"/> <b>Occupational Therapy</b> <input checked="" type="checkbox"/> 1/23/17 <b>Pain Clinic</b> <input checked="" type="checkbox"/> 9/4/15 <b>Physical Therapy</b> <input checked="" type="checkbox"/> 1/23/19 <b>Specialty Therapy</b> <input checked="" type="checkbox"/> 1/23/18 <b>Other Therapy</b> <input checked="" type="checkbox"/> 7/9/13	<b>Care Providers</b>	<b>Primary Care Appointment</b> ● 4/16/2017 Primary Care/Medicine <hr/> <b>OtherRecent</b> ● 1/27/2018 Telephone Case Management <hr/> <b>Specialty Pain</b> ● 9/4/2017 Pain Clinic <hr/> <b>MH Appointment</b> None	<b>Primary Care Appointment</b> None <hr/> <b>OtherRecent</b> ● 1/30/2017 Spinal Cord Injury <hr/> <b>Specialty Pain</b> None <hr/> <b>MH Appointment</b> None

Patient Information and Risk of Suicide/Overdose

Contributing Risk Factors

Risk Mitigation Strategies and Non-pharmacological pain treatments

Care team & Follow-up

[Oliva et al., 2017](#)

# So...what can we do?

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- ▶ Review risk and protective factors (e.g., PDMP, STORM dashboard)
- ▶ Provide access to Naloxone
- ▶ Education: Overdose vs Overmedication?

## SIGNS OF OVERDOSE

Face is extremely pale and/or clammy to the touch.

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The body is limp.

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Fingernails or lips have a blue or purple tint.

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The person is making gurgling or rattling breathing noises.

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The person cannot be awakened from sleep or cannot speak.

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Breathing is very slow or stopped.

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The heartbeat is very slow or stopped.

## SIGNS OF OVERMEDICATION

Unusual sleepiness or drowsiness.

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Mental confusion, slurred speech, or intoxicated behavior.

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Slow or shallow breathing.

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Extremely small "pinpoint" pupils. (This can also be a sign of overdose.)

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Slow heartbeat or low blood pressure.

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"Nodding out" or difficulty being awakened from sleep.

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# So...what can we do II?

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- ▶ Provide access to Mental Health care
- ▶ Provide access to evidenced based treatment (e.g., CBT for Chronic Pain, CBT for Suicide Prevention)
- ▶ Mitigate risk factors/Bolster Protective Factors

## Keep in mind: Risk and Protective Factors for Suicide

- Prior suicide attempt
- Mental health issues
- Substance abuse
- Access to lethal means
- Recent loss
- Legal or financial challenges
- Relationship issues
- Unemployment
- Homelessness
- Chronic Pain
- Access to mental health care
- Sense of connectedness
- Problem-solving skills
- Sense of spirituality
- Mission or purpose
- Physical health
- Employment
- Social and emotional well-being

# Resources

- ▶ National Suicide Prevention Lifeline
  - ▶ 1-800-273-8255 (press 1 for veterans)
  - ▶ Chat:  
<https://suicidepreventionlifeline.org/>
  - ▶ Text: 838255
- ▶ Suicide Prevention Resource Center
  - ▶ <https://www.sprc.org/states/south-carolina>
- ▶ AFSP SC Chapter
  - ▶ <https://afsp.org/chapter/south-carolina>



1-800-273-8255 **PRESS 1**

..... Confidential chat at **VeteransCrisisLine.net** or text to **838255** .....

**Questions:** Dr. Jennifer Wray [Jennifer.wray@va.gov](mailto:Jennifer.wray@va.gov)  
and Dr. Kathryn Bottonari [Kathryn.bottonari@va.gov](mailto:Kathryn.bottonari@va.gov)

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Please copy and paste the evaluation link into your web browser to complete a very brief survey:

[https://redcap.link/ECHO\\_Evaluation](https://redcap.link/ECHO_Evaluation)

Upcoming ECHO OUD Session		
Date	Topic	Presenter
11/19	Use of Naloxone	Lindsey Jennings, MD

