Demographics, Red Flags and Warning Signs, Role of Primary Care in Keeping Kids Safe

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Suicidal Behavior in Youth: Demographics and Warning Signs

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Project Disclosure Statement

- We have no relevant financial relationships with the manufacturers(s) of any commercial products(s) and/or provider of commercial services discussed in this CME activity

- We do not intend to discuss an unapproved/investigative use of a commercial product/device in our presentation.

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Mitigating Potential Bias

- The information and recommendations involving clinical medicine is based on evidence that is currently accepted within the profession

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Objectives:

1. Review demographic characteristics of youth suicide
2. Identify risk factors for suicide
3. Discuss warning signs for suicide

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CDC definitions

- **Suicide:** Death caused by self-inflicted injurious behavior with any **intent** to die as a result of the behavior
- **Suicide attempt:** A nonfatal, self-directed, potentially injurious behavior with any **intent** to die. May or may not result in injury
- **Interrupted self-directed violence—by other:** A person takes steps to injure self but is stopped by another person prior to fatal injury. (The stop can occur at any point)
- **Interrupted self-directed violence—by self:** A person takes steps to injure self but is stopped by self prior to injury
- **Non-suicidal self-injurious behavior (NSSI):** self-inflicted, potentially harmful, with no **intent** to die as result of the behavior, such as to affect external circumstances or internal state

A Crosby, LV Ortega, C Melanson – 2011; https://stacks.cdc.gov/view/cdc/11997

Demographics- Suicidal behavior

- 2017 Youth Risk Behaviors Survey*:
  - 17.2% of high schoolers think about suicide in the past 12 months
  - 7.4 percent of youth in grades 9-12 reported that they had made at least one suicide attempt in the past 12 months.
    - Female students attempted almost twice as often as male students (9.3% vs. 5.1%)
    - A significantly higher percentage of black students (9.8%) attempted suicide than white students (6.1%)

*American Foundation for Suicide Prevention: afsp.org/about-suicide
https://afsp.org/about-suicide/suicide-statistics/

Question

- 1. How high does suicide rank as a cause of death in children 10-14 years of age?
  - A. Second
  - B. Third
  - C. Fourth
  - D. Fifth

10 Leading Causes of Death by Age Group, United States – 2017

	Age Groups										
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Congenital Anomalies 4,580	Unintentional Injury 1,267	Unintentional Injury 718	Unintentional Injury 860	Unintentional Injury 13,441	Unintentional Injury 25,669	Unintentional Injury 22,828	Malignant Neoplasms 39,266	Malignant Neoplasms 114,810	Heart Disease 519,052	Heart Disease 647,457
2	Short Gestation 3,749	Congenital Anomalies 424	Malignant Neoplasms 418	Suicide 517	Suicide 6,252	Suicide 7,948	Malignant Neoplasms 10,900	Heart Disease 32,658	Heart Disease 80,102	Malignant Neoplasms 427,896	Malignant Neoplasms 599,108
3	Maternal Pregnancy Comp. 1,432	Malignant Neoplasms 325	Congenital Anomalies 188	Malignant Neoplasms 437	Homicide 4,905	Homicide 5,488	Heart Disease 10,401	Unintentional Injury 24,461	Unintentional Injury 23,408	Chronic Low. Respiratory Disease 136,139	Unintentional Injury 169,936
4	SIDS 1,363	Homicide 303	Homicide 154	Congenital Anomalies 191	Malignant Neoplasms 1,374	Heart Disease 3,681	Suicide 7,335	Suicide 8,561	Chronic Low. Respiratory Disease 18,667	Cerebro-vascular 125,653	Chronic Low. Respiratory Disease 160,201
5	Unintentional Injury 1,317	Heart Disease 127	Heart Disease 75	Homicide 178	Heart Disease 913	Malignant Neoplasms 3,616	Homicide 3,351	Liver Disease 8,312	Diabetes Mellitus 14,904	Alzheimer's Disease 120,107	Cerebro-vascular 146,383
6	Placenta Cord. Membranes 843	Influenza & Pneumonia 104	Influenza & Pneumonia 62	Heart Disease 104	Congenital Anomalies 355	Liver Disease 918	Liver Disease 3,000	Diabetes Mellitus 6,409	Liver Disease 13,737	Diabetes Mellitus 59,020	Alzheimer's Disease 121,404
7	Bacterial Sepsis 592	Cerebro-vascular 66	Chronic Low. Respiratory Disease 59	Chronic Low Respiratory Disease 75	Diabetes Mellitus 248	Diabetes Mellitus 823	Diabetes Mellitus 2,118	Cerebro-vascular 5,198	Cerebro-vascular 12,708	Unintentional Injury 55,951	Diabetes Mellitus 83,564
8	Circulatory System Disease 449	Septicemia 48	Cerebro-vascular 41	Cerebro-vascular 56	Influenza & Pneumonia 190	Cerebro-vascular 593	Cerebro-vascular 1,811	Chronic Low. Respiratory Disease 3,975	Suicide 7,982	Influenza & Pneumonia 46,862	Influenza & Pneumonia 55,672
9	Respiratory Distress 440	Benign Neoplasms 44	Septicemia 33	Influenza & Pneumonia 51	Chronic Low. Respiratory Disease 188	HIV 513	Septicemia 854	Septicemia 2,441	Septicemia 5,838	Nephritis 41,670	Nephritis 50,633
10	Neonatal Hemorrhage 379	Perinatal Period 42	Benign Neoplasms 31	Benign Neoplasms 31	Complicated Pregnancy 168	Complicated Pregnancy 512	HIV 831	Homicide 2,275	Nephritis 5,671	Parkinson's Disease 31,177	Suicide 47,173

Data Source: National Vital Statistics System, National Center for Health Statistics, CDC.
Produced by: National Center for Injury Prevention and Control, CDC using WISQARS™.

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

Suicide Demographics

- Suicide is the second leading cause of death for 10-to-19 year-olds
  - Thousands of young people over 5,200/dying year**
  - Rate increased 33% between 1999 and 2014*
- The majority of children and adolescents who attempt have a significant mental health disorder, usually depression**
- Suicide in elementary school-age children is rare, but it increases after puberty with increasing age
- There are many suicide attempts for each completed suicide

*Ruch DA et al. JAMA Network Open. 2019;2(5):e193886. doi:10.1001

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Question

- 2. Which sex has the highest rate of youth completed suicides?

  A. Boys B. Girls

- 3. Which sex has the highest rate of youth suicide attempts?

  A. Boys B. Girls

Suicide rates:

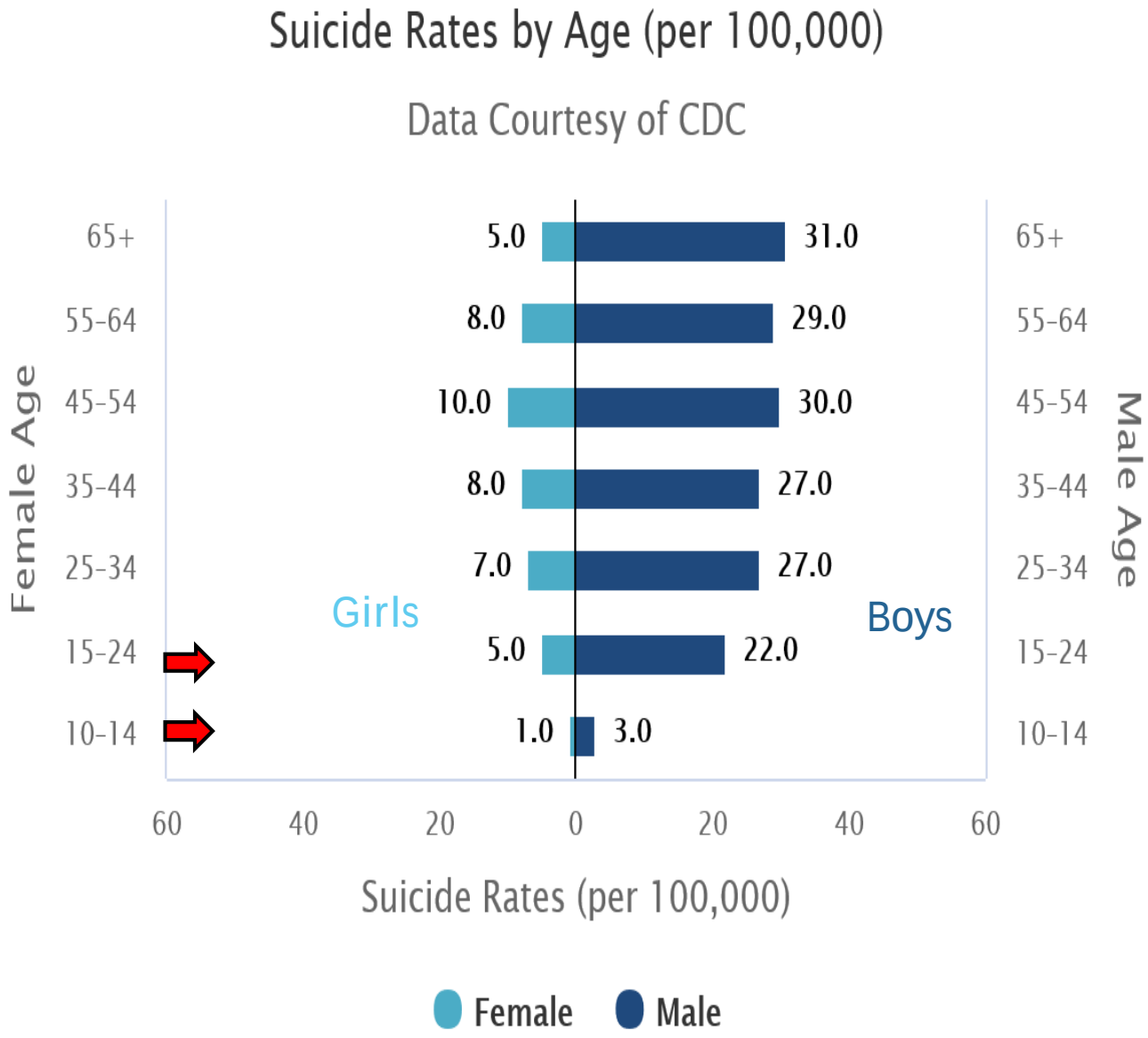
rare in elementary school-age children

increases significantly after puberty

male/female ratio of completed suicides is:

3:1 in pre-pubertal children

and increases to 5:1 in 15-24 y/o



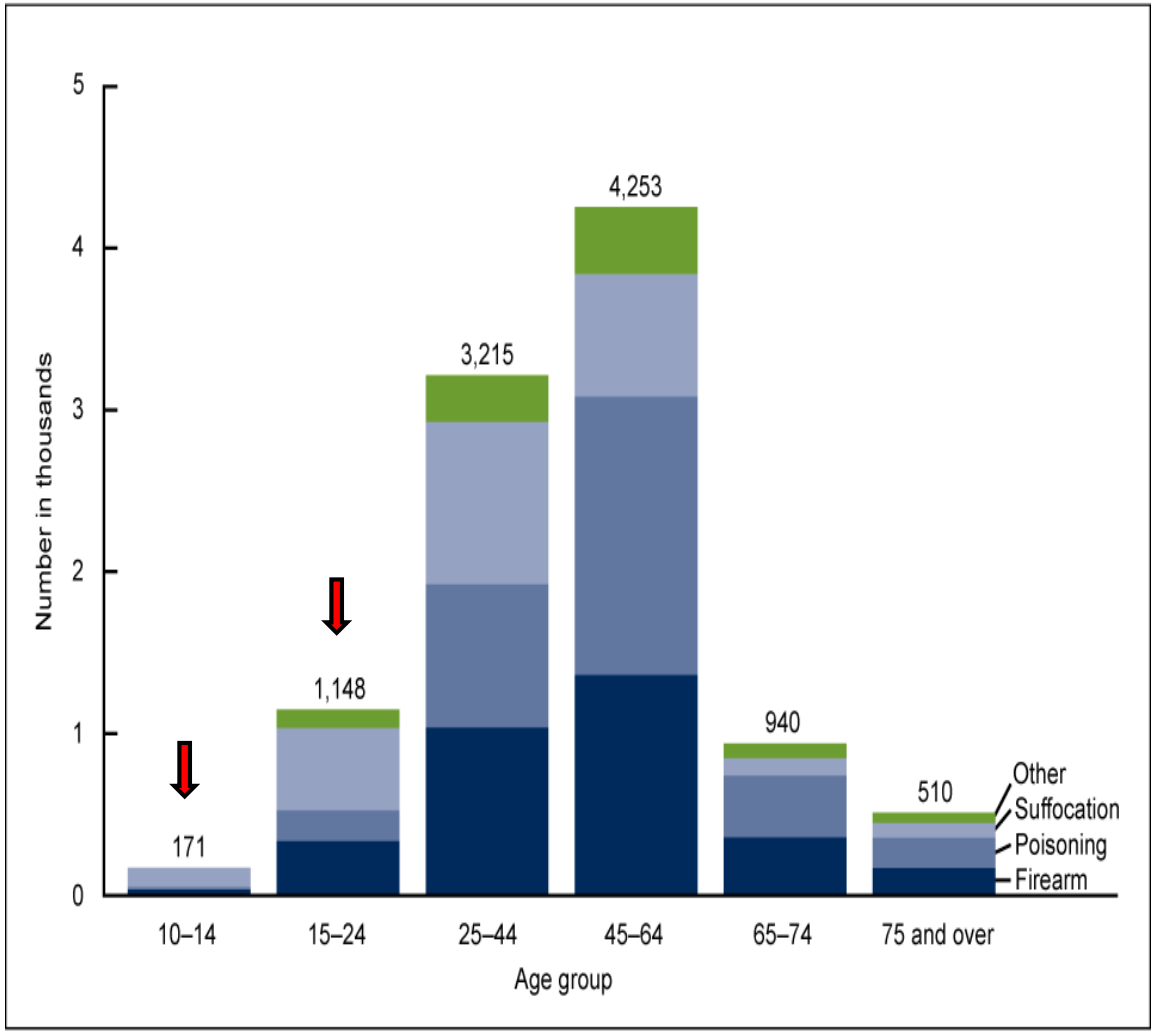
Demographics – Male versus female

- Prevalence of suicidal ideation and attempts is higher in females, more than 2:1
  - During adolescence, the prevalence of depression increases and becomes twice as high among girls as boys
- Although girls are twice as likely to attempt suicide, boys actually account for almost 80% of all suicide related deaths**
  - Males choose the more lethal method of firearms
  - Females more often choose hanging

**AACAP.org

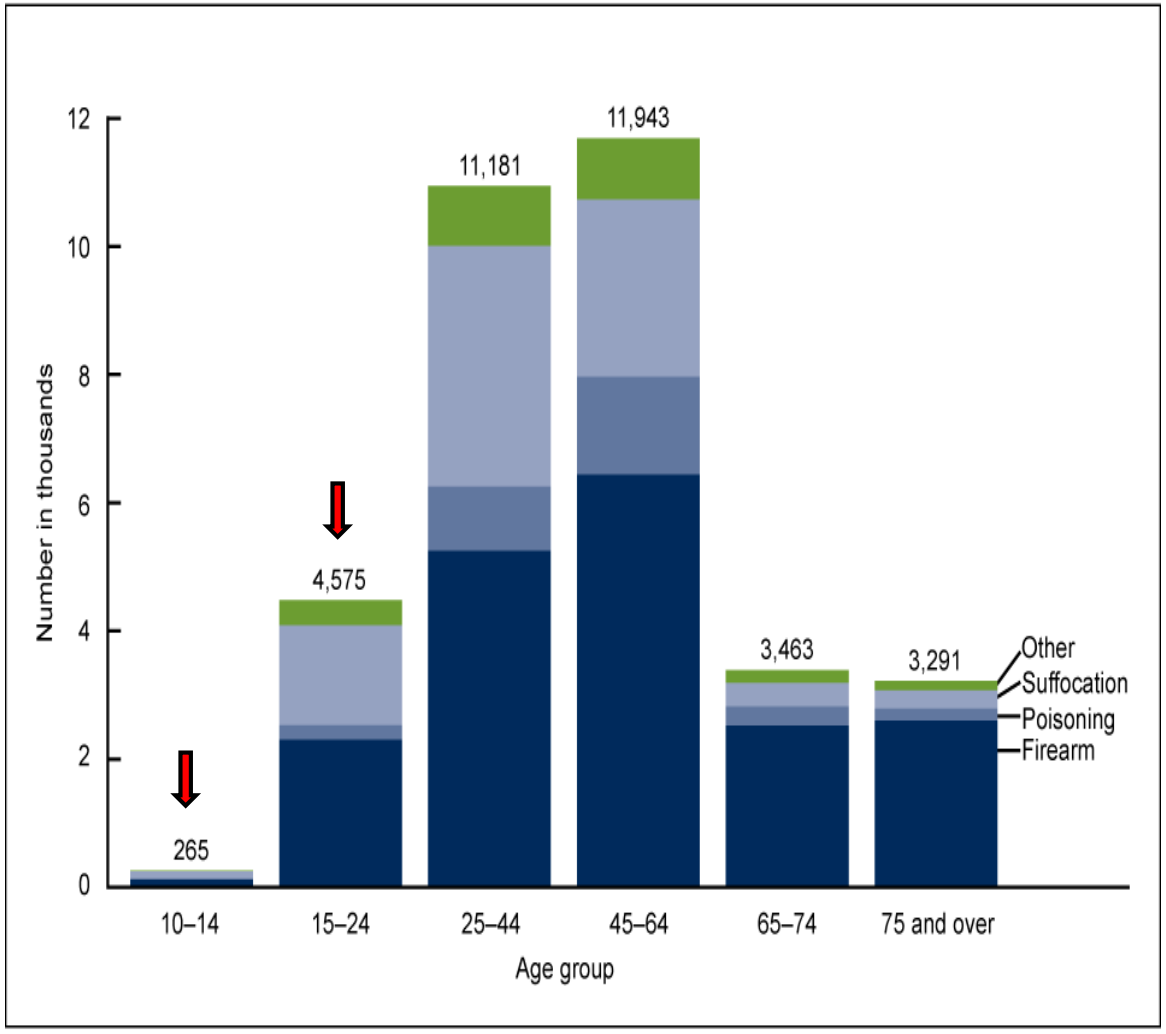
Suicides by age group and means in females and males

Figure 4. Number of suicides for females, by age group and means of suicide: United States, 2016



NOTES: Suicides were identified using *International Classification of Diseases,10th Revision*, underlying cause-of-death codes: U03, X60–X84, and Y87.0. Suicides were categorized by the means of suicide based on the underlying cause-of-death codes: firearm (X72–X74), suffocation (X70), poisoning (X60–X69), and other means (U03, X71, X75–X84, and Y87.0). Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db309_table.pdf#4.
SOURCE: NCHS, National Vital Statistics System, Mortality.

Figure 5. Number of suicides for males, by age group and means of suicide: United States, 2016



NOTES: Suicides were identified using *International Classification of Diseases,10th Revision,* underlying cause-of-death codes: U03, X60–X84, and Y87.0. Suicides were categorized by the means of suicide involved based on the underlying cause-of-death codes: firearm (X72–X74), suffocation (X70), poisoning (X60–X69), and other means (U03, X71, X75–X84, and Y87.0). Access data table for Figure 5 at: https://www.cdc.gov/nchs/data/databriefs/db309_table.pdf#5.
SOURCE: NCHS, National Vital Statistics System, Mortality.

Demographics –
Changes in the male/female ratio

- Study looked at suicide deaths in US between 1975 and 2016
  - Results: Starting 2007, the trend has been an increase in suicide rates for female youth compared to male youth, especially aged 10-14 yrs. The gap is narrowing:
  - (12.7% vs 7.1% for 10-14 y/o; 7.9% vs 3.5% for 15-19 y/o).
  - Observed across all regions in the United States
- The male to female Incident Rate Ratio (IRR) decreased significantly across the study period for youth aged 10 to 14 years (3.14 to 1.80) and 15 to 19 years (4.15 to 3.31)
  - In youth of non-Hispanic white and non-Hispanic other ethnicities but not in non-Hispanic black or Hispanic youth.

Ruch DA et al. JAMA Network Open. 2019;2(5):e193886. doi:10.1001

JAMA Network™

From: **Trends in Suicide Among Youth Aged 10 to 19 Years in the United States, 1975 to 2016**

JAMA Netw Open. 2019;2(5):e193886. doi:10.1001/jamanetworkopen.2019.3886

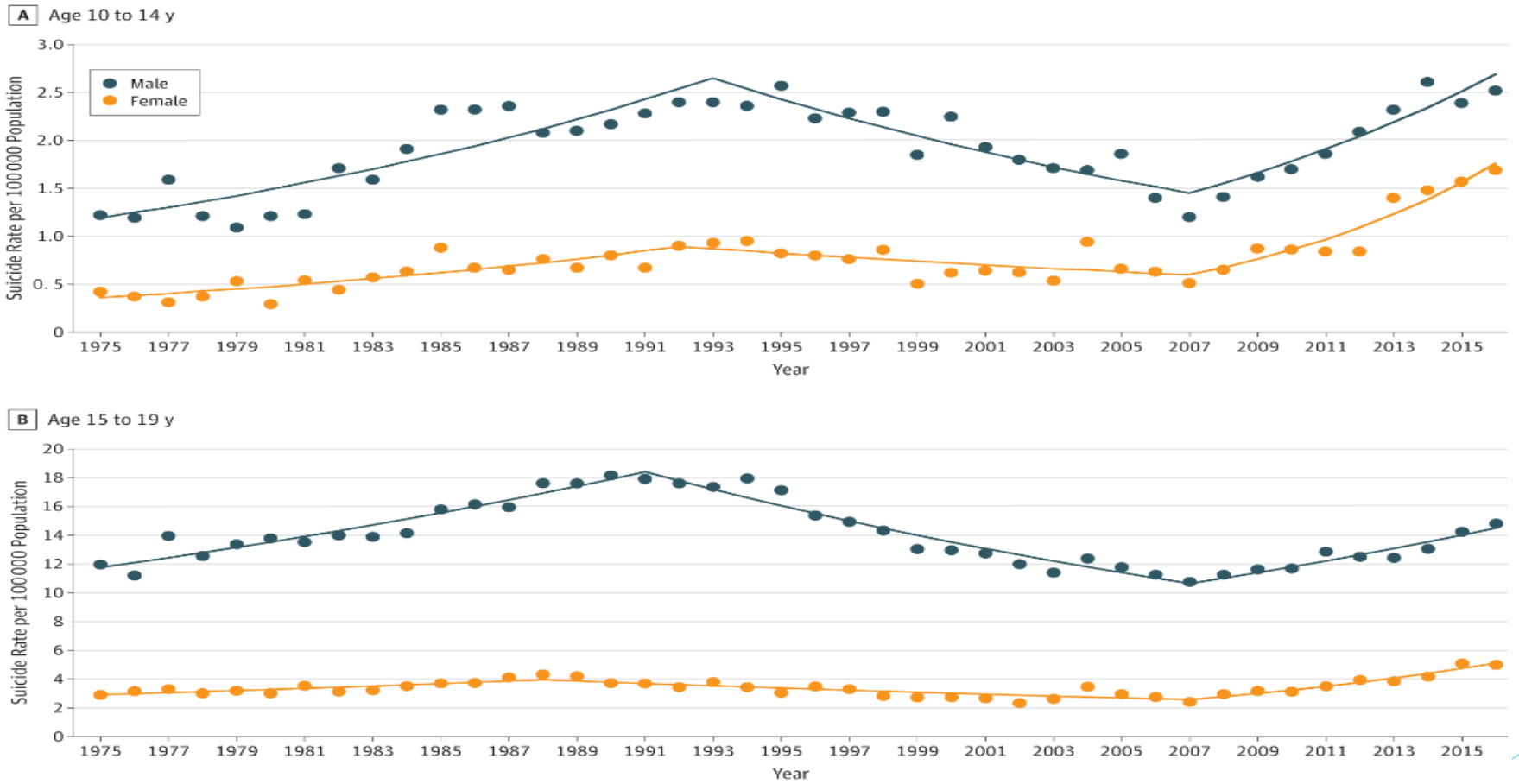


Figure Legend:

Suicide Trends Among Youth Aged 10 to 19 Years in the United States, 1975 to 2016Suicide rate trends are displayed as linear segments connected at the joinpoint or year when the slope of each trend changes significantly. Data markers indicate observed rates and solid colored lines indicate model rates.

Demographics - method

- The male to female ratio for poisoning remained unchanged
  - Girls continue to overdose more commonly than boys
- The male to female ratio decreased for hanging and suffocation
  - Rate of hanging/suffocation increased more in girls (especially 10-14 yr) than in boys
- The male to female ratio increased for firearms
  - Rate increased in boys more than in girls

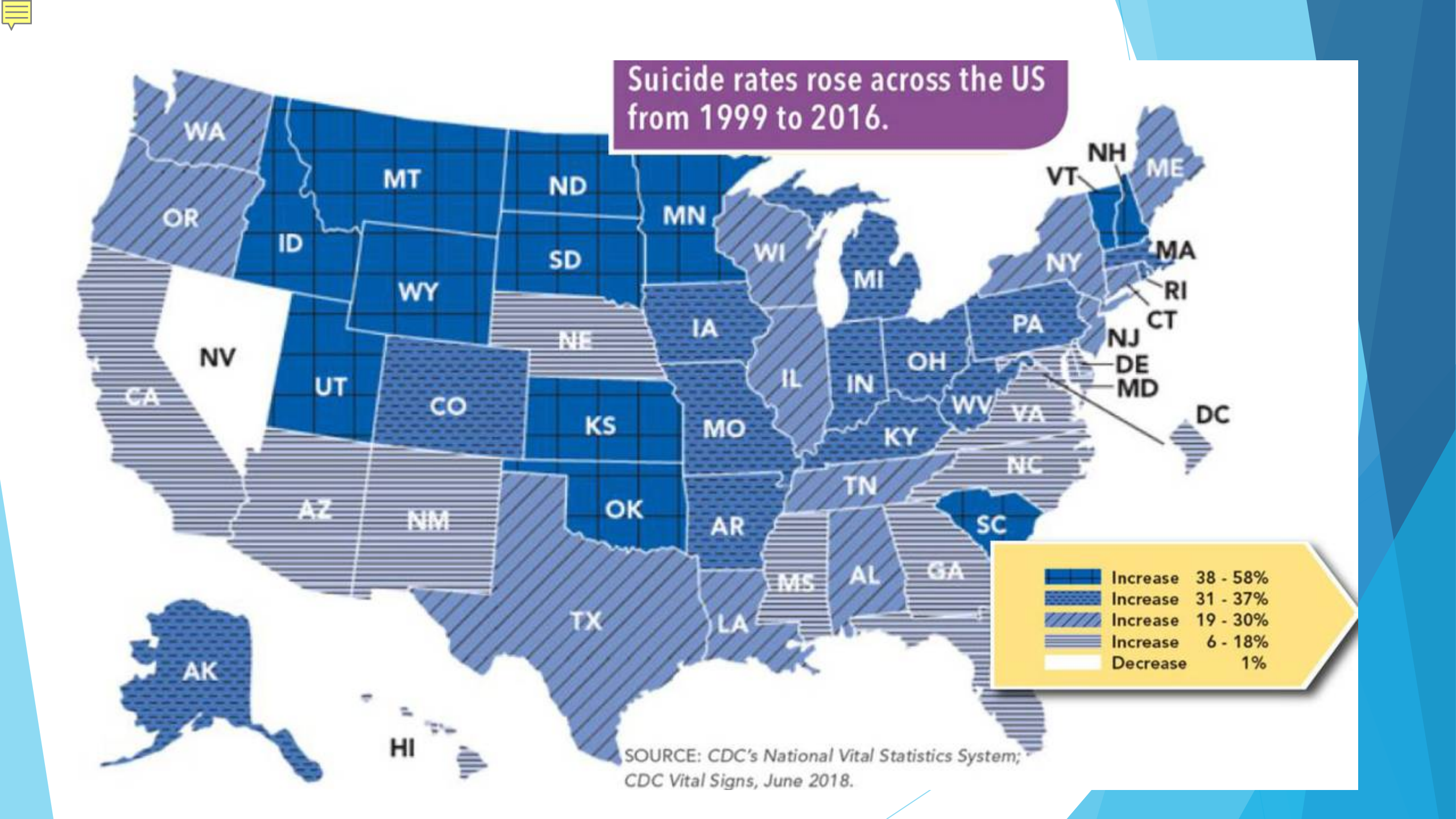
Ruch DA et al. JAMA Network Open. 2019;2(5):e193886. doi:10.1001

Demographics - ethnicity

- Rates of completed suicide are highest in:
  - American Indian/Alaska Native
  - Whites
  - Asian/Pacific Islanders
  - Hispanics
  - Blacks

Health of the Nation

King C. 2013.Teen Suicide

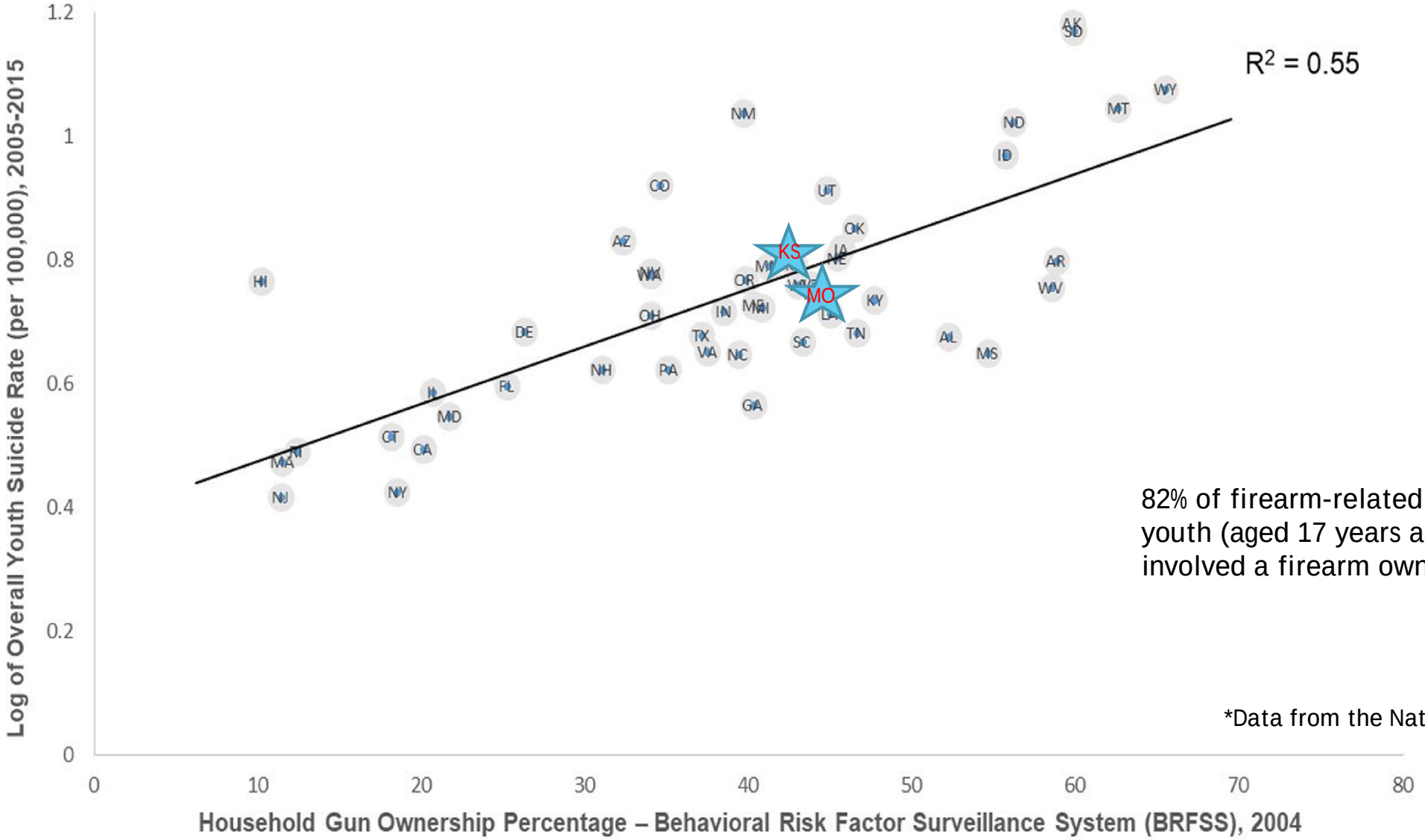

Suicide rates rose across the US from 1999 to 2016.
WA
OR
CA
NV
ID
MT
WY
UT
AZ
CO
NM
ND
SD
NE
KS
OK
TX
MN
IA
MO
AR
LA
WI
IL
MS
MI
IN
KY
TN
AL
OH
WV
GA
FL
SC
NC
VA
PA
NY
VT
NH
ME
MA
RI
CT
NJ
DE
MD
DC
AK
HI
Increase 38 - 58%
Increase 31 - 37%
Increase 19 - 30%
Increase 6 - 18%
Decrease 1%
SOURCE: CDC's National Vital Statistics System; CDC Vital Signs, June 2018.

Demographics – Kansas statistics, 2017

- 78% of the decedents previously talked about suicide
- 66% were currently receiving or previously had received mental health services
- 66% had a significant argument or family conflict just prior to the suicide; 31% of the cases it was a recent breakup with boyfriend/girlfriend
- 44% of the decedents left a suicide note
- 56% of the suicide deaths were male; 47% of the suicides were completed with a firearm

Kansas State Child Death Review Board, 2019 repot (2017 data)

Relationship between household gun ownership in 2004 and log of youth suicide rate 2005 - 2015



82% of firearm-related suicides among youth (aged 17 years and younger) involved a firearm owned by a household member*

*Data from the National Violent Injury Statistic System

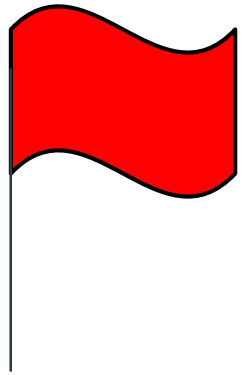
Risk factors Pre-disposing

- Psychiatric disorders
  - Depression (especially in females), aggression, psychosis
- Family history of suicide attempts
- History of physical or sexual abuse
- Childhood adversity
  - Family death, parental: separation, psych diagnosis, criminality, or substance use, or family public assistance, residential instability
- Previous suicide attempt
  - Especially in males

Risk factors - Precipitating

- Substance abuse
- Access to firearms
- Acute loss or rejection
- Bullying
- Social stress and isolation
- Emotional and cognitive factors:
  - Feelings of hopelessness or helplessness
  - Impulsivity
  - Impaired problem-solving
- Contagion

Warning Signs – red flags



- Loss of interest in pleasurable activities
- Unusual neglect of personal appearance
- Feelings of hopelessness or helplessness, feeling like a burden to others
- Sleeping too little or too much
- Giving away belongings
- Increased alcohol or drug use
- Violent actions, rebellious behavior, or running away
- Expressing rage or talking of revenge
- Marked personality change; sudden relief from stress and sadness
- Expressing a desire to die; searching information about ways to take their own life

Resources

- American Academy of Child and Adolescent Psychiatry, aacap.org website/ Resource centers/suicide
- Lifeact.org
- Columbia Lighthouse Project: http://cssrs.columbia.edu/the-columbia-scale-c-ssrs/cssrs-for-communities-and-healthcare/#filter=.general-use.english

NATIONAL SUICIDE PREVENTION LIFELINE™
1-800-273-TALK
www.suicidepreventionlifeline.org

Suicide Screening

Michael Lewis, MD

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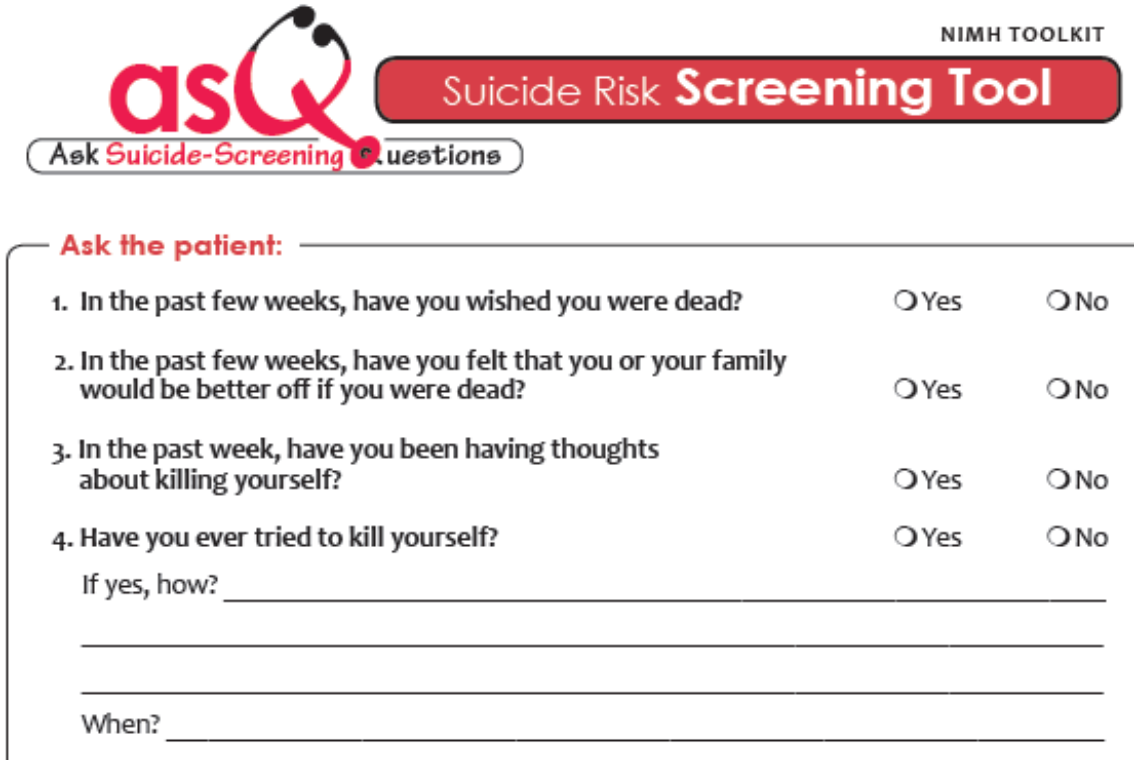
Objectives

- Screening in the primary care setting
- Know your action plans ahead
- Review case

Pick the Best Screening for Your Setting

- Yes, time is a factor
- When do you want to start this?
- Who will be administering the screening?
- Many validated screening tools
  - ASQ
  - CSSRS
  - PHQ
  - https://www.jointcommission.org/assets/1/18/Suicide_Prevention_Resources_to_support_NPSG150101_Nov201821.PDF

ASQ



NIMH TOOLKIT

asQ

Suicide Risk **Screening Tool**

Ask Suicide-Screening Questions

Ask the patient:

1. In the past few weeks, have you wished you were dead? ❍ Yes ❍ No
2. In the past few weeks, have you felt that you or your family would be better off if you were dead? ❍ Yes ❍ No
3. In the past week, have you been having thoughts about killing yourself? ❍ Yes ❍ No
4. Have you ever tried to kill yourself? ❍ Yes ❍ No

   If yes, how? _____

   _____

   _____

   When? _____

If the patient answers **Yes** *to any of the above, ask the following acuity question:*

5. Are you having thoughts of killing yourself right now? ❍ Yes ❍ No

   If yes, please describe: _____

Next steps:

- If patient answers "No" to all questions 1 through 4, screening is complete (not necessary to ask question #5). No intervention is necessary (*Note: Clinical judgment can always override a negative screen).*
- If patient answers **"Yes"** to any of questions 1 through 4, or refuses to answer, they are considered a **positive screen.** Ask question #5 to assess acuity:
  - ☐ **"Yes"** to question #5 = **acute positive screen** (imminent risk identified)
    - Patient requires a **STAT** safety/full mental health evaluation. **Patient cannot leave until evaluated for safety.**
    - Keep patient in sight. Remove all dangerous objects from room. Alert physician or clinician responsible for patient's care.
  - ☐ "No" to question #5 = **non-acute positive screen** (potential risk identified)
    - Patient requires a **brief** suicide safety assessment to determine if a **full** mental health evaluation is needed. **Patient cannot leave until evaluated for safety.**
    - Alert physician or clinician responsible for patient's care.

C-SSRS

	Past Month
1) Have you wished you were dead or wished you could go to sleep and not wake up?	
2) Have you actually had any thoughts about killing yourself?	
If **YES** to 2, answer questions 3, 4, 5 and 6 If **NO** to 2, go directly to question 6	

3) Have you thought about how you might do this?		
4) Have you had any intention of acting on these thoughts of killing yourself, as opposed to you have the thoughts but you definitely would not act on them?	**High Risk**	
5) Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?	**High Risk**	
Always Ask Question 6	Lifetime	Past 3 Months
6) Have you done anything, started to do anything, or prepared to do anything to end your life? *Examples*: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, held a gun but changed your mind, cut yourself, tried to hang yourself, etc.		**High Risk**

Something is Positive, Now What?

- Pediatric mental health is gap in our society
- There is no one plan fits all approach
- Partnerships with mental health providers, mental health centers, and local/regional hospitals is pivotal for better outcomes

A.R

- 10 yo male comes for ADHD (mostly inattentive symptoms) comes for follow up
- Adderall XR 5mg isn't working as well, started 2 years ago and has gained 25 pounds since then
- He was very anxious during the exam
- Long sleeve t shirt, ~90 degrees outside
- Recent cutting noted on left forearm

A.R

- More past history…
  - Single mom
  - 2 older siblings now in college, I was PCP for both
  - One older sibling is now transgender
    - 5 years ago grandfather moved from Peru when J.P. disclosed her gender identity
    - ‘Get the gay out’
    - Years of negative comments about homosexuality
    - J.P. now dressing as a female and taking hormones
- A.R. discloses to me ‘I regret myself being alive.’
- SW brought into room with me, C-SSRS done and he was high risk

A.R.

- Inpatient psychiatric admission for safety and therapy but no open beds
- Admitted to pediatric hospitalist team
- Transferred next day but family had started to have second thoughts about admission, so I was called and came to room and advocated for inpatient psychiatry admission and prayed with the family

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Thank You!