

S Syracuse University
Maxwell School of
Citizenship & Public Affairs

Understanding and preventing youth suicide: trends, causes, and interventions

Michiko Ueda-Ballmer
Syracuse University



S Syracuse University
Maxwell School of
Citizenship & Public Affairs

- Associate Professor,
Department of
Public Administration
and International
Affairs
- Joined SU in 2022
- Suicide prevention;
social determinants
of health



Outline

1. Overall trend in suicide deaths
2. Suicidal thoughts and behaviors among youth: risk and protective factors
3. Suicide deaths among youth: circumstances of death
4. Discussion: what can we do to prevent suicide deaths among youth?

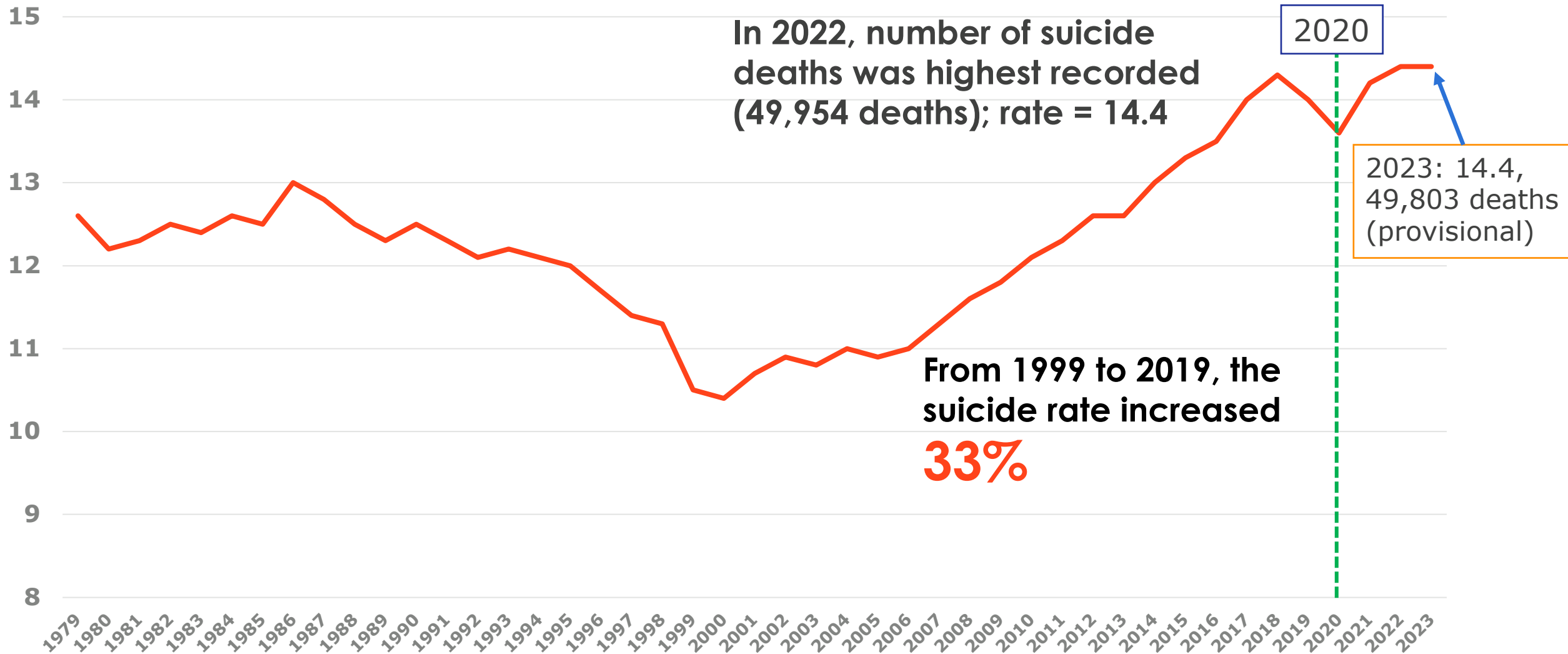
Objectives

- Identify risk and protective factors, including the role of racism, sexual identity, social media, and experience in school.
- Understand circumstances of suicide, such as mental illness, family and school-related issues and how they differ by race/ethnicity and sex.
- Understand the complexity of youth suicide and consider roles of parents and schools to prevent their suicide.

1. Overall Trend



Suicide rate* in the U.S.: 1979-2023

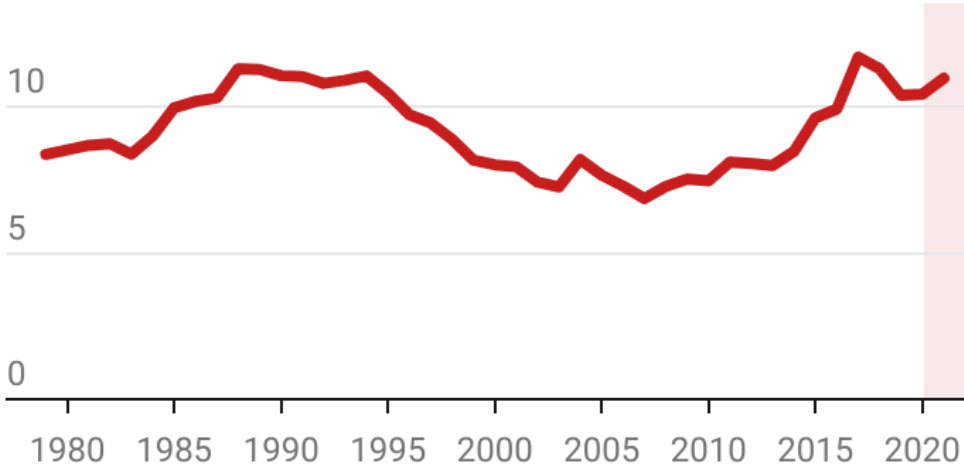


Note: Number of suicide deaths per 100,000 persons. Age-adjusted rates shown.

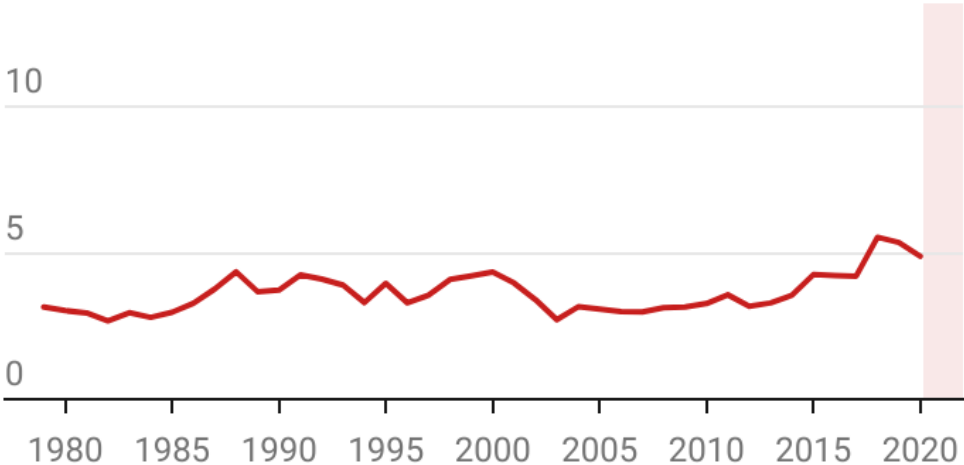
Suicide rates among persons aged 15-19 years

Source: WHO Mortality Database

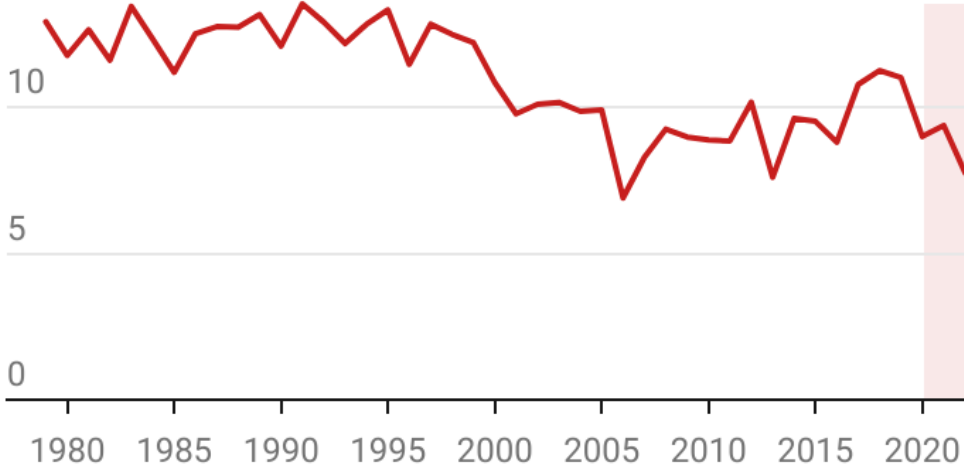
United States



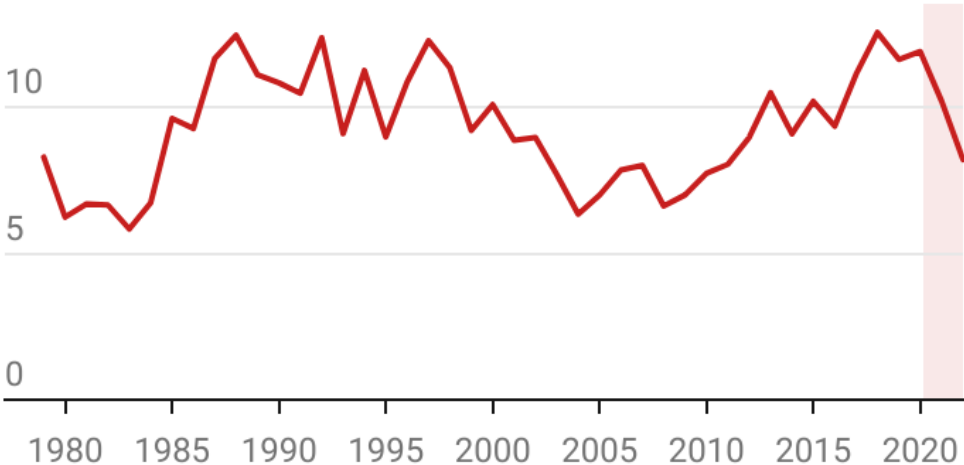
United Kingdom



Canada

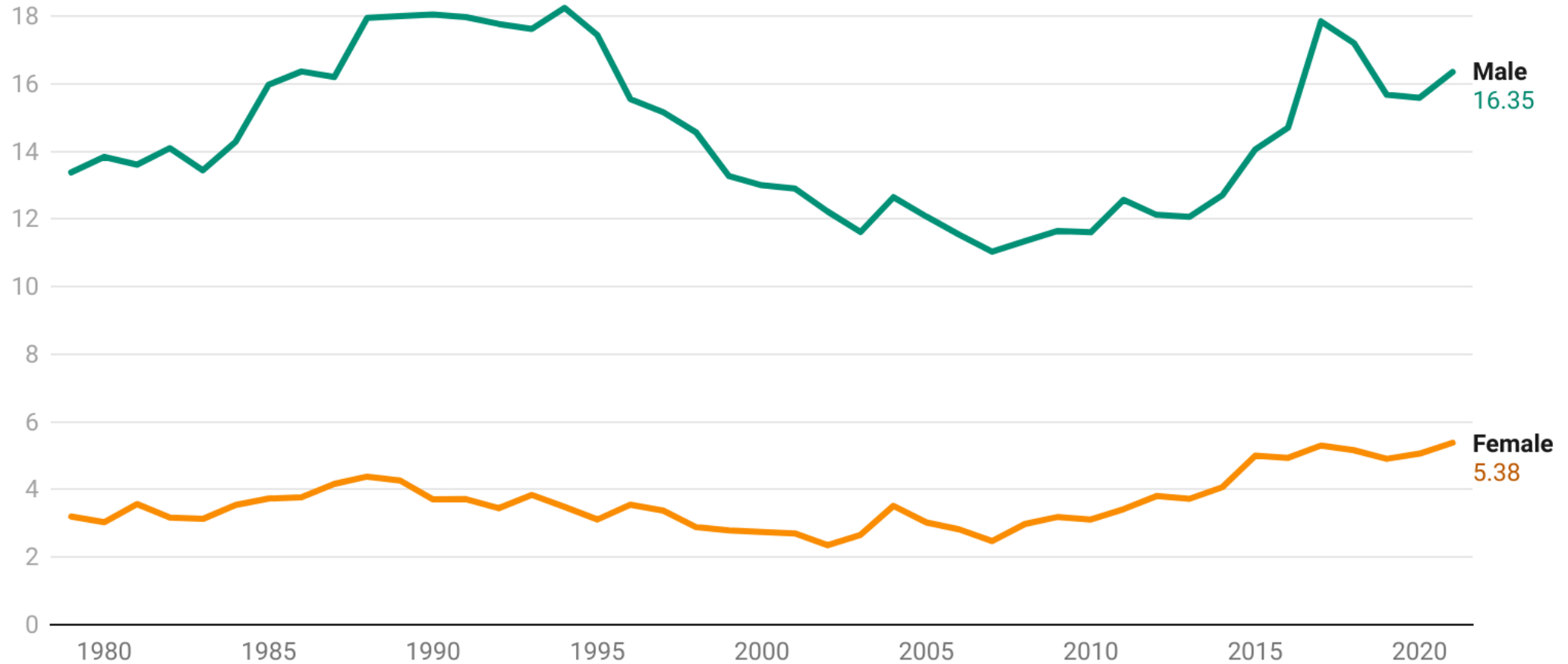


Australia



Suicide rates among persons aged 15-19 years, United States, 1979-2021

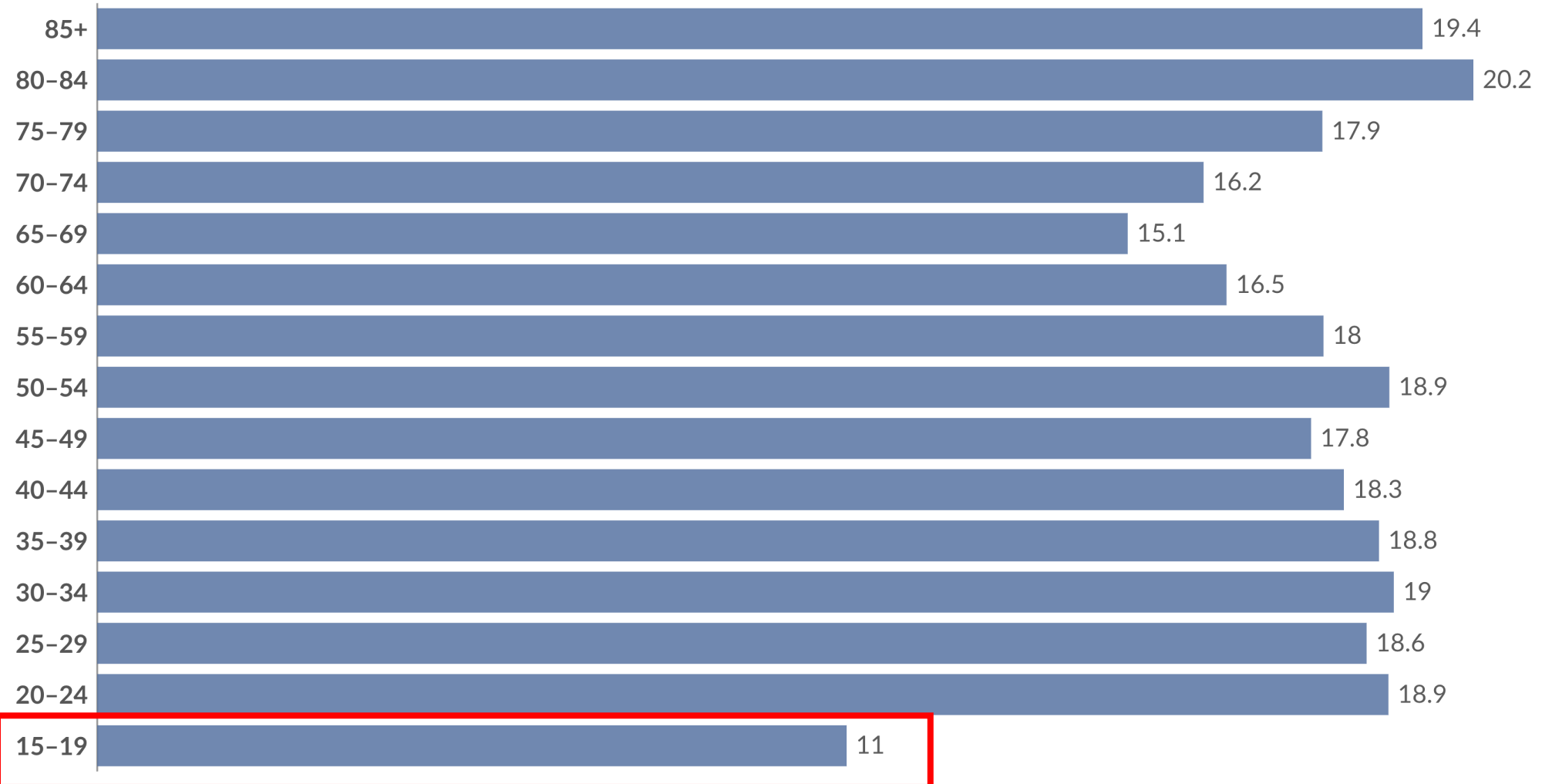
Source: WHO Mortality Database



As in most countries, males tend to have higher suicide rate than females

Reported suicide rates by age, United States, 2021

Reported annual death rate from suicide per 100,000 people. Suicide deaths are underreported in many countries due to social stigma and cultural or legal concerns. This data has not been adjusted for underreporting, and comparisons may be affected by differences in measurement.



Data source: WHO Mortality Database (2024)

OurWorldinData.org/suicide | CC BY

Note: Reported rates are based on the underlying cause of death listed on death certificates.

5 Leading Causes of Deaths, Ages 10-19

→ Suicide
2nd leading cause of death





For every 1 person who died:



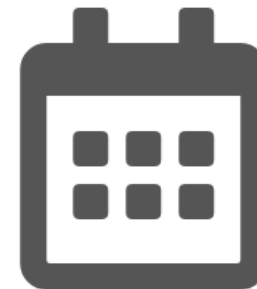
16

People hospitalized



27

People treated and released from ED



Years of Potential Life Lost before Age 65:

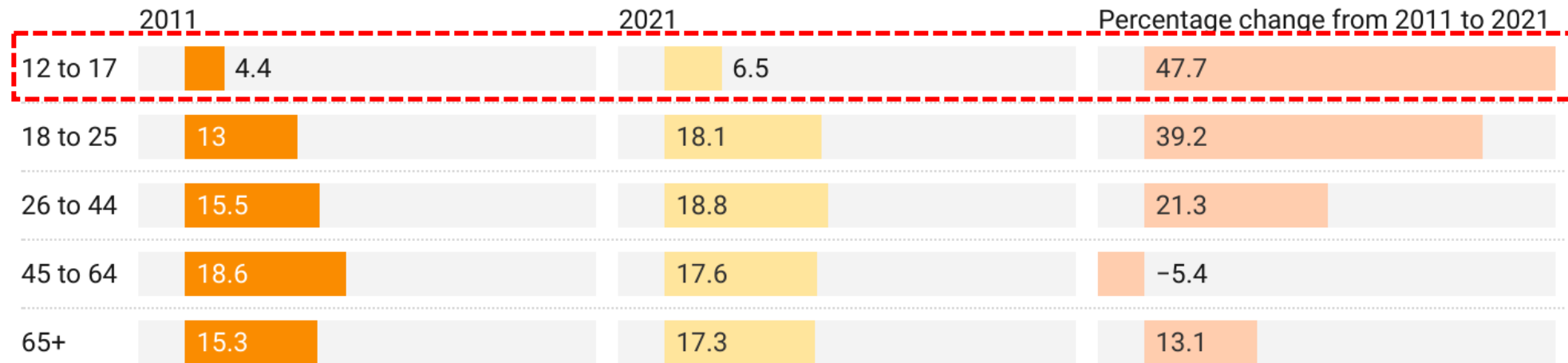
425,135 Years

Note: Data based on self-harm deaths and injuries among persons aged 1-17 years, 2018 to 2022.

Source: WISQARS.

Suicide rates by age group, 2011 and 2021

Source: CDC



- Aged 12 to 17 years experienced the largest % increase between 2011 and 2021.
- Impact of COVID generally larger for younger individuals.

Adverse childhood experiences (ACEs) are common, potentially traumatic events



3 in 4 high school students experienced **at least one** ACE during the pandemic

These students were more likely to report poor mental health and suicidal behavior



We can prevent ACEs and support adolescents who have experienced them with timely, effective care

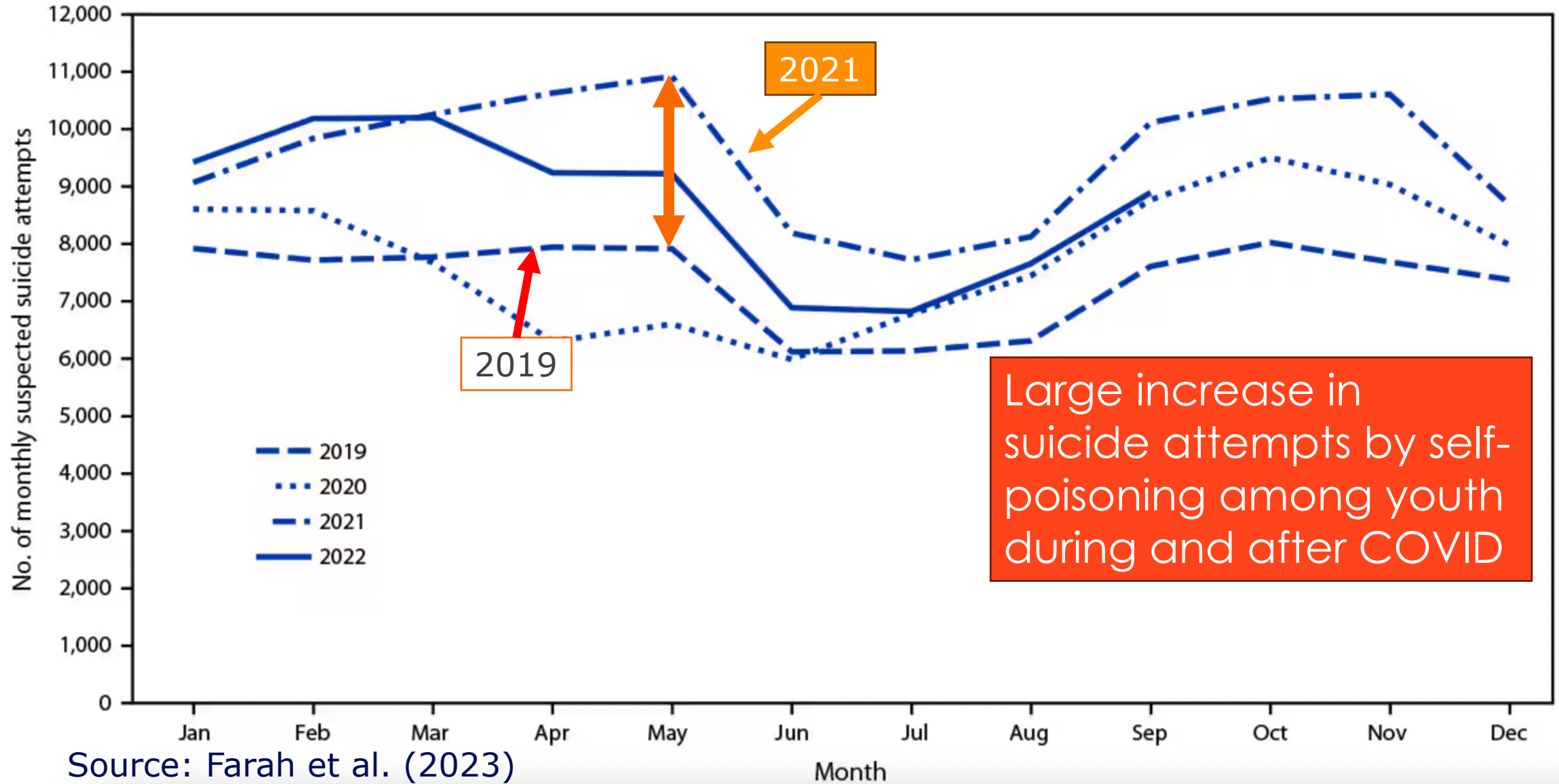


bit.ly/mm7141a2

OCTOBER 14, 2022

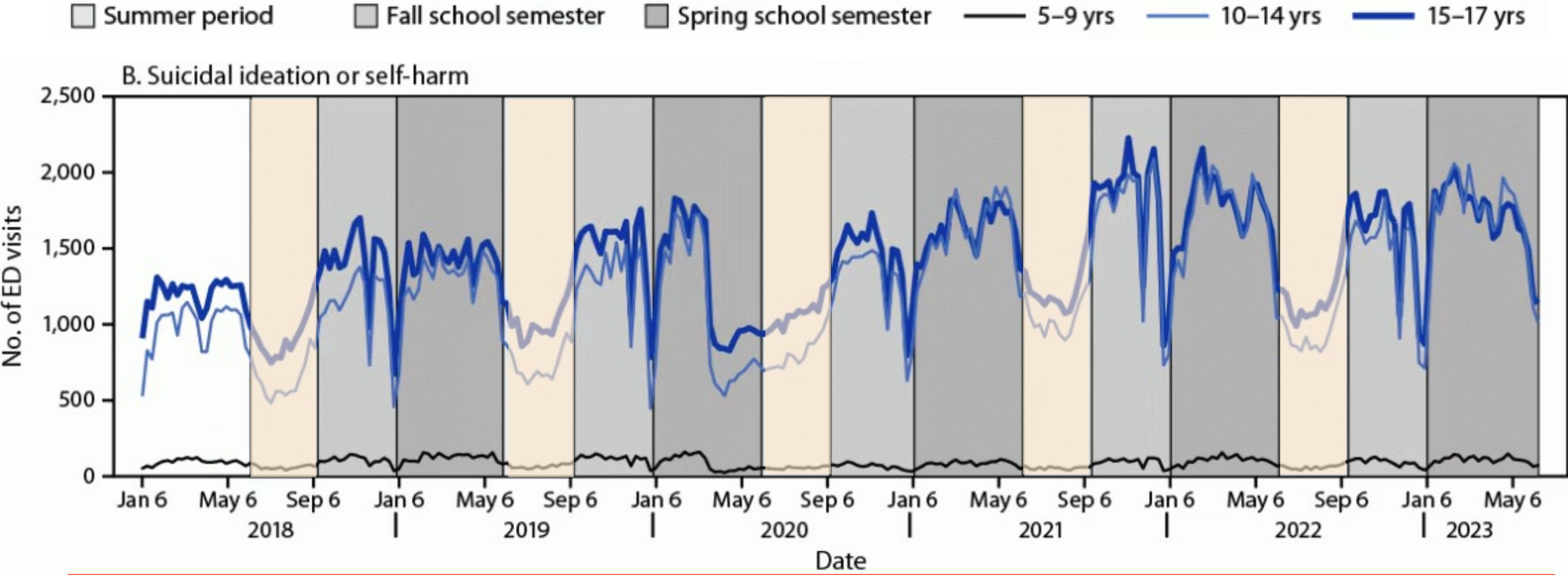
MMWR

Number of suspected suicide attempts by poisoning, 10-19 years



Source: Farah et al. (2023)

Number of emergency department visits for suicidal ideation or self-harm among persons aged 5–17 years, by age group



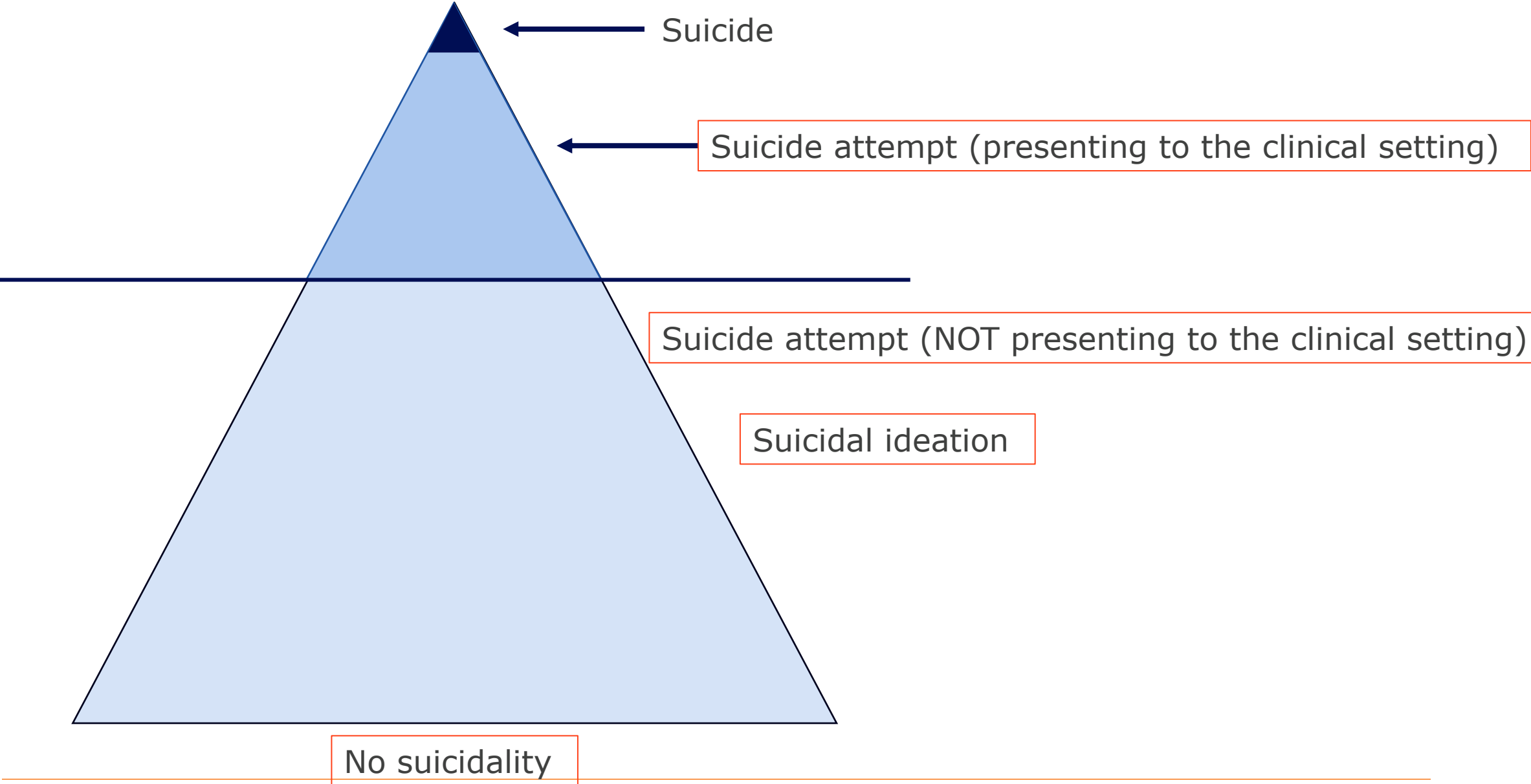
An increasing trend; Lower number of Emergency Department visits during summer months

Recap: Part 1

- Suicide one of the leading causes of death among youth.
- Among all age groups, youth experienced the largest increase in suicide rate in recent years.
- Temporal decline in suicide rate during covid, but the impact of covid large for youth.
- Suicide attempts lower during summer months, suggesting the importance of school-related issues.

2. Risk and protective factors





Understanding suicidal thoughts and behaviors

- Youth Risk Behavior Survey (YRBS) by CDC
- Nationally representative sample based on school-based survey.
- Conducted every two years since 1991
- Latest results based on 2023 data (about 20,000 respondents) just released.

1 in 5

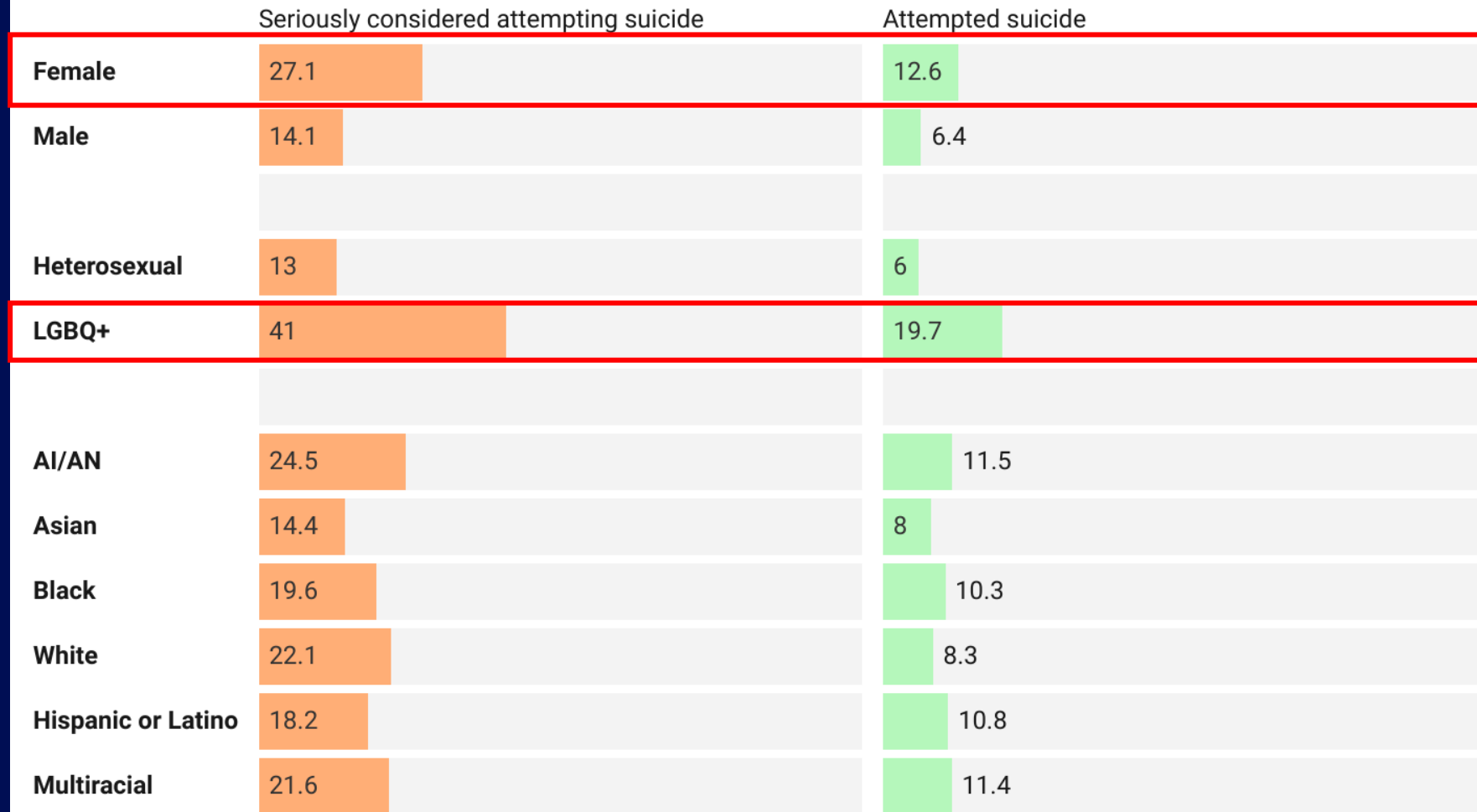
high school students seriously considered
attempting suicide

1 in 10

attempted suicide

Prevalence of suicide risk indicators among high school students, by demographic characteristics

Source: Youth Risk Behavior Survey 2023



Female and LGBTQ+ students more likely to seriously consider attempting suicide or attempt suicide

AI/AN: American Indian or Alaska Native

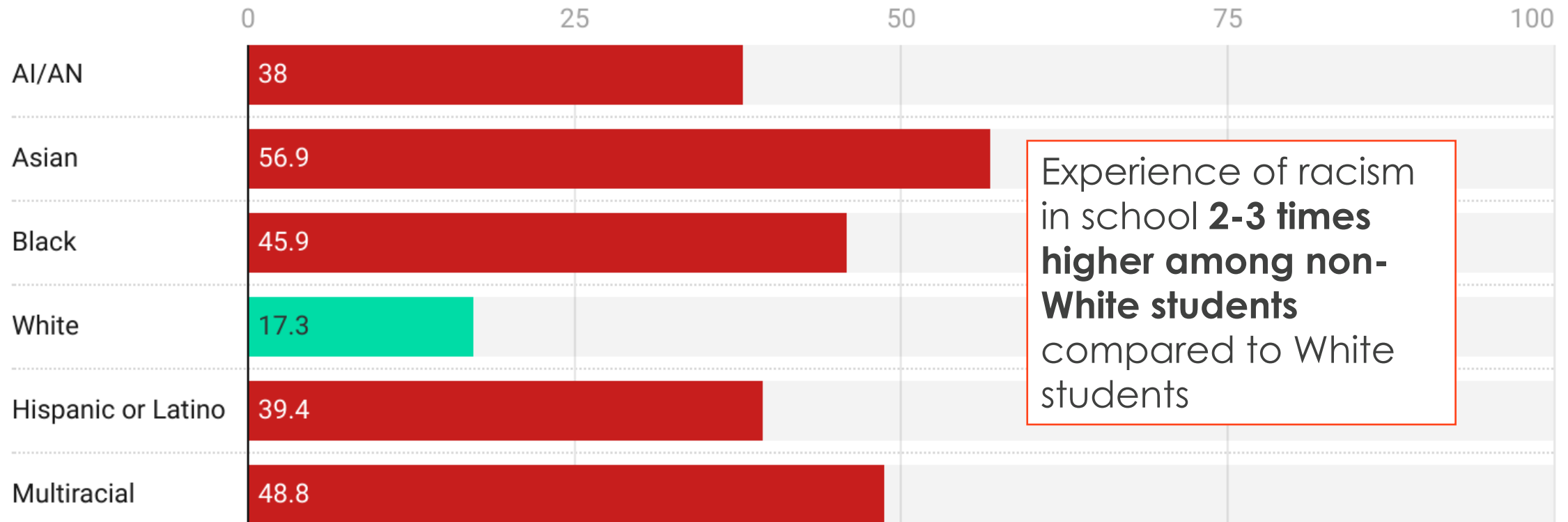
Experiences of racism in school

“During your life, how often have you felt that you were treated badly or unfairly in school because of your race or ethnicity?”



Prevalence of ever experiencing racism in school among high school students, by race and ethnicity

Source: Youth Risk Behavior Survey 2023



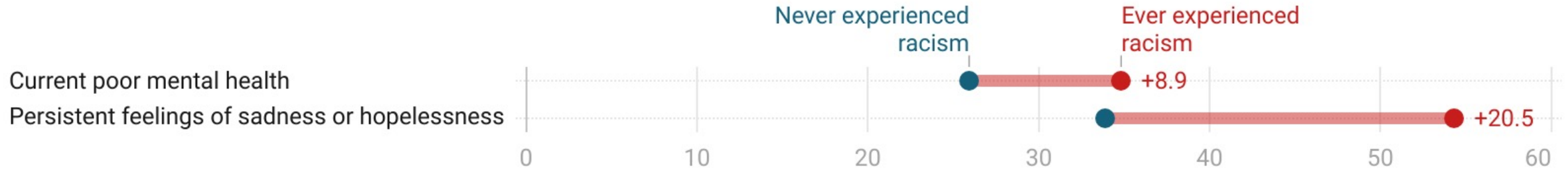
Note: percentages of those who responded “rarely”, “sometimes”, “most of the time” and “always” experienced racism shown.

Source: McKinnon et al. (2024)

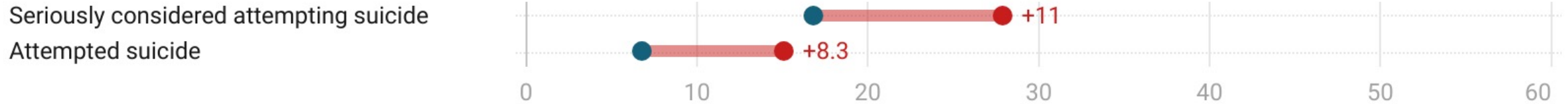
Prevalence of mental health and suicide risk by experiences of racism in school among high school students

Source: Youth Risk Behavior Survey 2023

Mental health



Suicide risk



High school students who were treated badly or unfairly due to their race or ethnicity more likely to have **poor mental health and higher suicide risk**

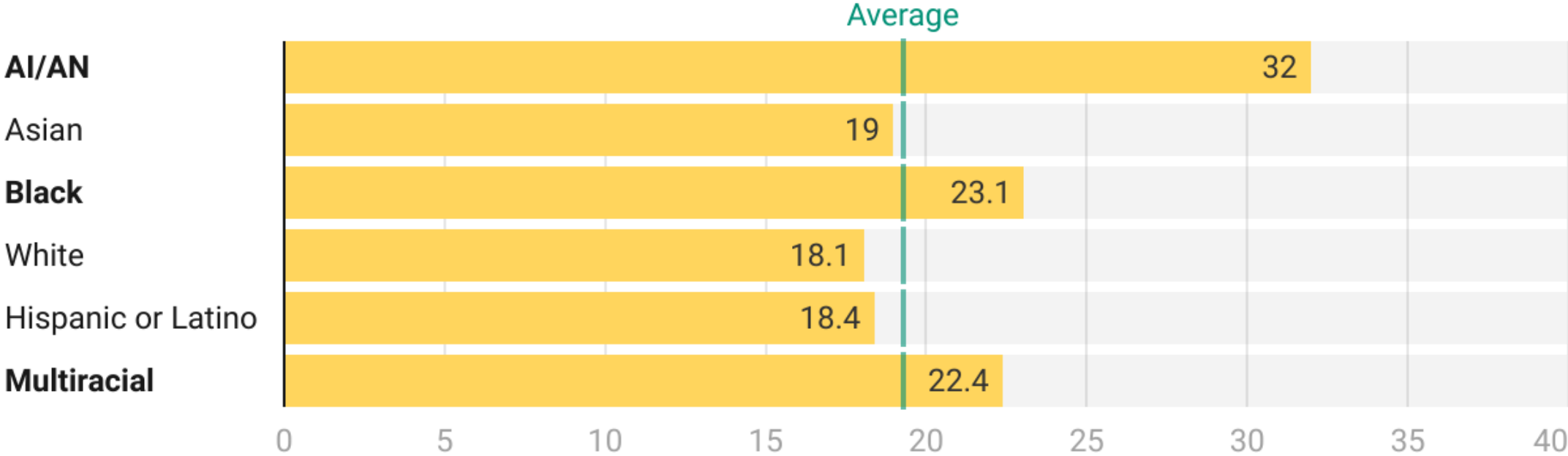
Experiences of unfair discipline at school

“During the past 12 months, have you been unfairly disciplined at school?”



Prevalence of report of unfair discipline at school among high school students, by race and ethnicity

Source: Youth Risk Behavior Survey 2023



Note: percentages of those reported receiving unfair discipline shown.
Source: Krause et al. 2024

High school students who received unfair discipline at school are:

1.7 times more likely to **seriously consider attempting suicide**

2.1 times more more likely to **attempt suicide**

compared to those who did not receive unfair discipline

Note: the effect of race/ethnicity, grade and sex adjusted.

Source: Krause et al. (2024)

How about social media?

According to Youth Risk Behavior Survey in 2023,

- **77%** of high school students reported using social media at least several times a day (= “frequent social media use”)
- Female students more likely to report frequent social media use (82%), compared to male students (73%)

Frequent social media use and bullying victimization

- Frequent users more likely to report bullying victimization, both in-person and electronically.
- Association stronger for female frequent social media users.
- Consistent with prior studies.



Social media use and suicide risk

- Frequent social media users are more likely to report **persistent feelings of sadness/hopelessness** and **seriously consider attempting suicide**.
- But association between **frequent social media use and actual suicide attempt is weak** (= not statistically significant), even for females and LGBTQ+ students.



Complex impact of social media on suicidal thoughts and behaviors

- Evidence from other studies – inconclusive.
- Demonstrating causality (= social media causing suicidal behavior) challenging, because the influence is often bi-directional.
- Too early to conclude the overall impact of social media on suicidal thoughts and behaviors; More studies necessary.

Complex impact of social media on suicidal thoughts and behaviors

- Social media can be beneficial for certain high-risk individuals by connecting them to communities and support networks.
- Social media can be used to reach out to at-risk individuals to provide resources and to promote help-seeking.

Protective factors

- School connectedness (feeling close to others at school)
- Positive communication and connectedness with parents
- Existence of adults who always tried to meet their basic needs
- Physical activity, especially team sports

Source: Verlenden et al. (2024)



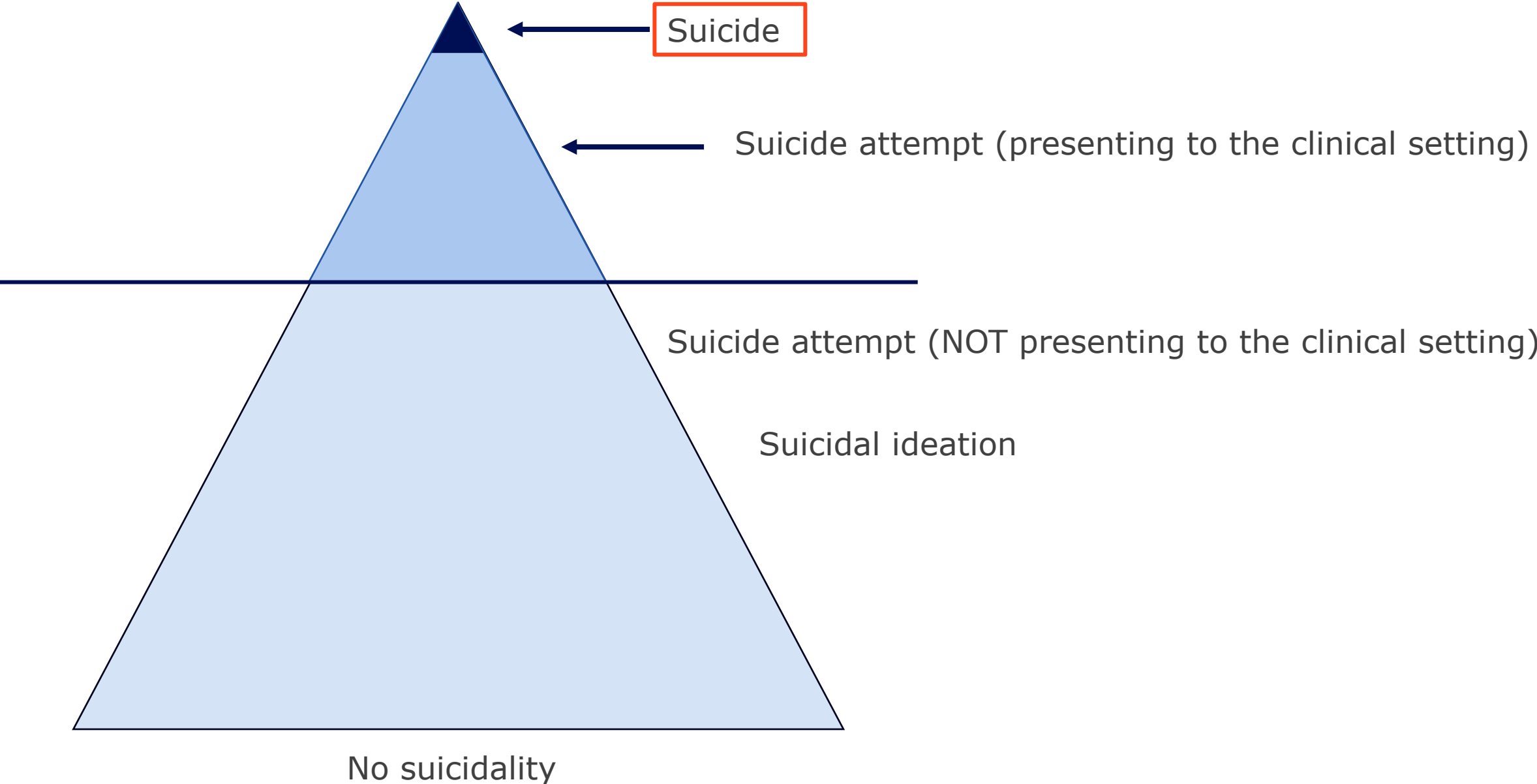
Recap: Part 2

Based on latest (2023) survey of high school students:

- Female and LGBTQ+ high school students tend to have higher suicide risk.
- Non-White students tend to experience racism and unfair discipline in school; These experiences are associated with higher suicide risk.
- Impact of social media on suicide risk can be complex, but at least associated with bullying
- Importance of school and parental connectedness as protective factors.

3. Circumstances of suicide





- Note: Slides 39-64 suppressed. Contact the speaker for more information.

4. How can we prevent youth suicide?



S Syracuse University
Maxwell School of
Citizenship & Public Affairs

Thank you

Michiko Ueda-Ballmer
miueda@syr.edu



References

- Anderson KN, Swedo EA, Trinh E, et al. Adverse Childhood Experiences During the COVID-19 Pandemic and Associations with Poor Mental Health and Suicidal Behaviors Among High School Students — Adolescent Behaviors and Experiences Survey, United States, January–June 2021. *MMWR Morb Mortal Wkly Rep* 2022;71:1301–1305. DOI: <http://dx.doi.org/10.15585/mmwr.mm7141a2>
- Farah R, Rege SV, Cole RJ, Holstege CP. Suspected Suicide Attempts by Self-Poisoning Among Persons Aged 10–19 Years During the COVID-19 Pandemic — United States, 2020–2022. *MMWR Morb Mortal Wkly Rep* 2023;72:426–430. DOI: <http://dx.doi.org/10.15585/mmwr.mm7216a3>
- Krause KH, Bell C, Jordan B, et al. Report of Unfair Discipline at School and Associations with Health Risk Behaviors and Experiences — Youth Risk Behavior Survey, United States, 2023. *MMWR Suppl* 2024;73(Suppl-4):69–78. DOI: <http://dx.doi.org/10.15585/mmwr.su7304a8>
- McKinnon II, Krause KH, Suarez NA, et al. Experiences of Racism in School and Associations with Mental Health, Suicide Risk, and Substance Use Among High School Students — Youth Risk Behavior Survey, United States, 2023. *MMWR Suppl* 2024;73(Suppl-4):31–38. DOI: <http://dx.doi.org/10.15585/mmwr.su7304a4>
- Radhakrishnan L, Carey K, Pell D, et al. Seasonal Trends in Emergency Department Visits for Mental and Behavioral Health Conditions Among Children and Adolescents Aged 5–17 Years — United States, January 2018–June 2023. *MMWR Morb Mortal Wkly Rep* 2023;72:1032–1040. DOI: <http://dx.doi.org/10.15585/mmwr.mm7238a3>

- Verlenden JV, Fodeman A, Wilkins N, et al. Mental Health and Suicide Risk Among High School Students and Protective Factors — Youth Risk Behavior Survey, United States, 2023. *MMWR Suppl* 2024;73(Suppl-4):79–86. DOI: <http://dx.doi.org/10.15585/mmwr.su7304a9>
- Young E, McCain JL, Mercado MC, et al. Frequent Social Media Use and Experiences with Bullying Victimization, Persistent Feelings of Sadness or Hopelessness, and Suicide Risk Among High School Students — Youth Risk Behavior Survey, United States, 2023. *MMWR Suppl* 2024;73(Suppl-4):23–30. DOI: <http://dx.doi.org/10.15585/mmwr.su7304a3>